SONY

3-758-873-22(1)

FM Stereo FM-AM Receiver

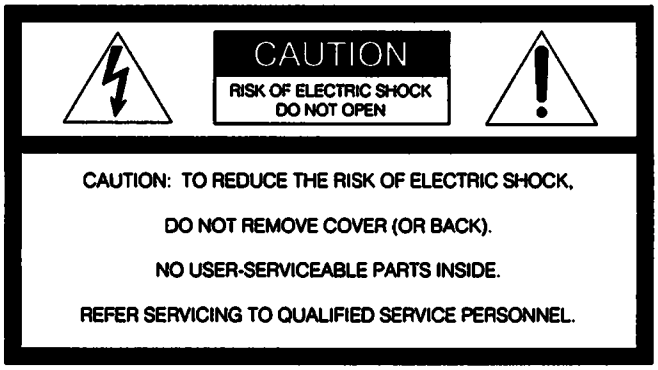
Operating Instructions

STR-D1015

Warning

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model number is located on the rear exterior and serial number is on the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. STR-D1015 Serial No. _____

Note to CATV system installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in Canada

CAUTION :

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

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Overview

Welcome

Congratulations on your purchase of this Sony FM stereo/FM-AM receiver !

Features of this receiver include:

Dolby *Pro Logic Surround Sound Decoder

- Provides four channels of sound information (front left, center, front right, and rear).
- Four center modes, to match your speaker configuration (Wide, Normal, Phantom and 3 CH LOGIC).
- The enhanced Dolby Pro Logic sound field, depending on your sound preferences (Theater).
- Variable delay time (15 - 30 ms).

Sound Field Settings

- 6 adjustable Sound Fields simulate the way you would experience sound in various listening environments. Acoustic, Dolby Sur, Theater, Live, Hall, Dance.

Digital Synthesis FM/AM Tuning

- Allows you to precisely tune in a station.

30 random FM/AM Station presets

- Lets you store your favorite stations in memory for easy recall.

Programmable Remote Control

- Remote control with "learning" capability allows you to use a single remote control for most audio and video operations.

9 Audio/Video Inputs

- Includes five video inputs (one on front panel).

Center Channel Amp.

- Center channel amp: 100 watts

4/8-Ohm Impedance Switch

- Lets you use front speakers with either 4 or 8 ohm impedance.

Station Index

- Lets you group preset stations by specific names.

Audio/Video Editing

- Lets you combine a video image with the sound from another program source.

About Dolby Surround Sound

The sound tracks of many programs, including current TV shows and movies that are on video cassette and laser disc, use Dolby Surround Sound. This enhanced audio soundtrack complements the action as it happens on the screen. Surround sound uses four separate channels to direct off-screen audio effects, on-screen dialog, left-to right panning, and music, bringing you right into the action. In the past, you would have to go to a movie theater to experience all the benefits of surround sound. But now, with the special sound decoder that is built into this receiver, you can experience Dolby Surround Sound right in your living room, with sound that even rivals what you would experience in a movie house.

Amplifier

This receiver employs a parallel push-pull output circuit. This circuit design allows the output impedance to be lowered, while allowing current flow and total power dissipation to increase. The result is better performance into low impedance loads, and at high power output levels.

* Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents; U.S. number 3,959,590; Canadian numbers 1,004,603 and 1,037,877. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Precautions

On safety
- Operate the unit only on 120 V AC, 60 Hz.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.

Place the unit in a location with adequate air circulation
This will prevent internal heat build up in the unit.

Do not install the unit:
- near heat sources such as radiators or air ducts.
- in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

Do not place anything on top of the cabinet
The top ventilation holes must be unobstructed for proper operation of the unit and to prolong the life of its components.

Do not throw away the carton and packing material!
Keep the packaging to transport the system for servicing, etc.

Cleaning the cabinet
Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine.

For customers in the U.S.A.
For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

Chapter 1 Getting Started

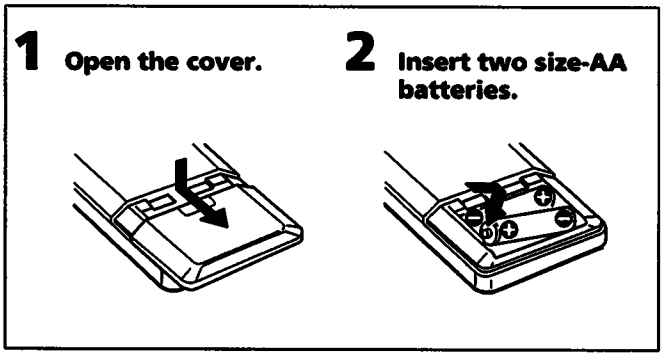
Unpacking

Checking the Supplied Accessories

Check that you have received the following items.
- FM wire antenna ..... (1)
- AM loop antenna ..... (1)
- Remote commander (RM-P341) ..... (1)
- AA-size Sony batteries (SUM-3 (NS)) ..... (2)

Inserting Batteries into the Remote Commander

Insert two size AA batteries (supplied) by matching the + and – on the batteries to the diagram inside the battery compartment.



Notes
- If you plan not to use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage.
- With a normal use, the batteries should last for approximately six months.
- Do not mix different types of batteries.

Hookups

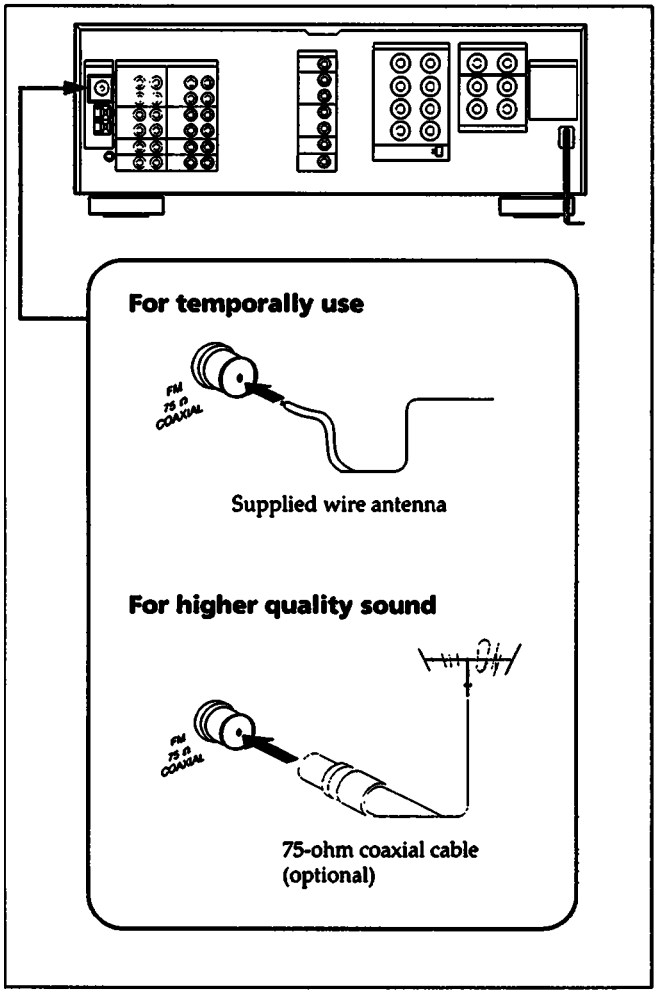
This section describes how to hookup antennas, audio components, TV/VCRs, and speaker systems.

Notes

- Do not connect the power cord to an AC outlet nor press the POWER switch before completing all other hookups.
- Be sure to fully insert the cable connectors into the jacks. Loose connection may cause hum and noise.
- Jacks and plugs of the connecting cord are color-coded as follows:
  Red jacks and plugs: For right channel audio
  White jacks and plugs: For left channel audio
  Yellow jacks and plugs: For video

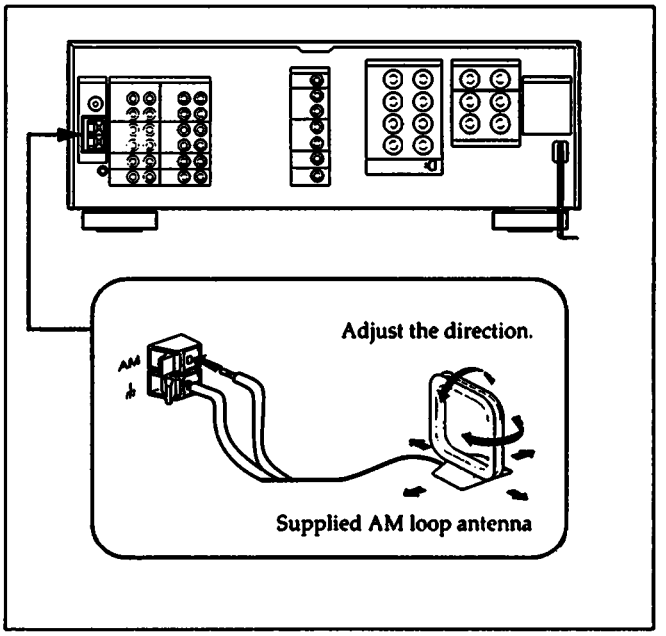
Connecting an FM Antenna

Connect the supplied FM wire antenna for temporally use. For better sound reception, we recommend that you use a 75-ohm coaxial cable (not supplied) instead.



Connecting an AM Antenna

Connect the supplied AM loop antenna to the AM antenna terminal, as shown below:



If you have poor AM reception

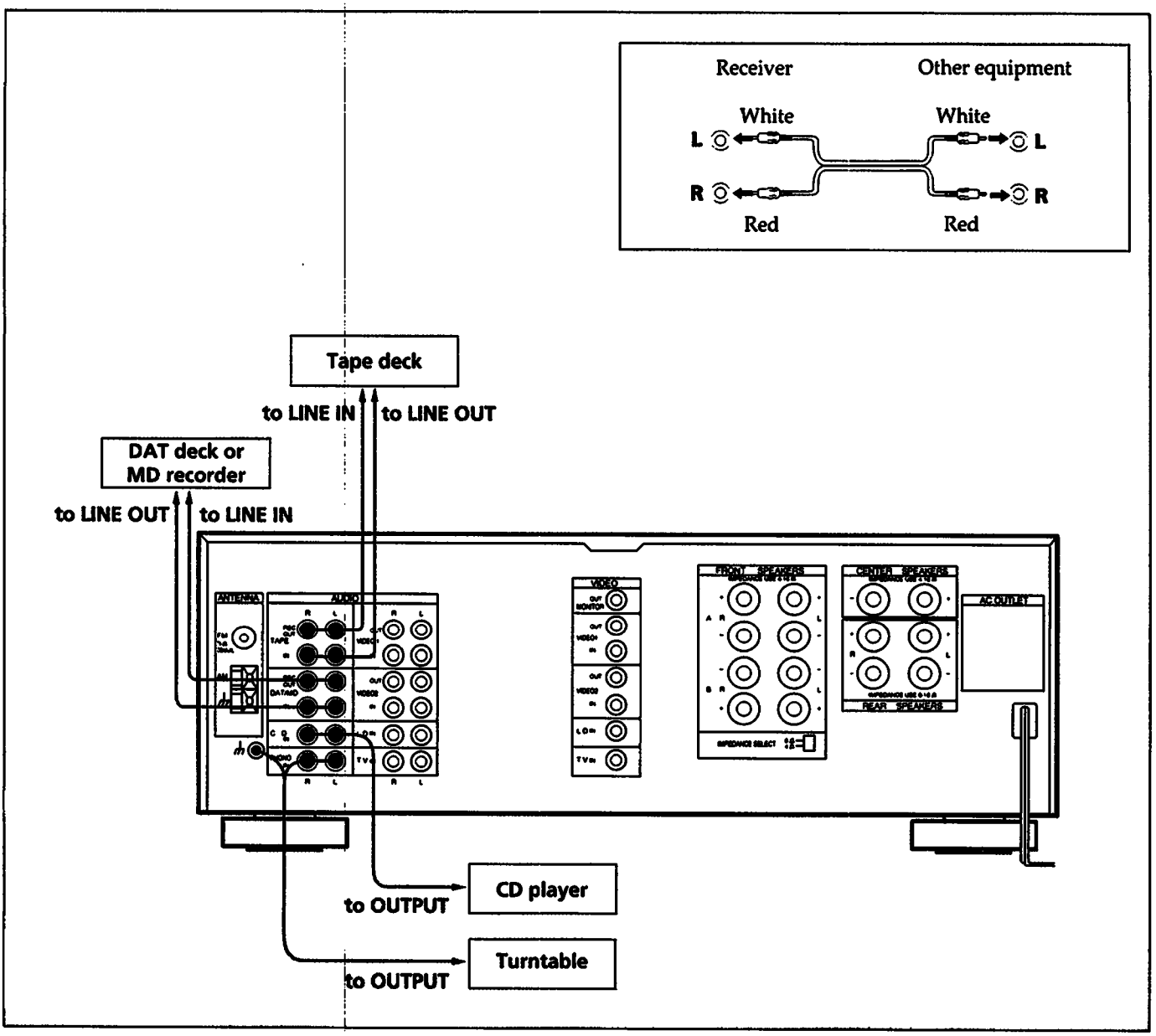
Usually, the supplied AM loop antenna is adequate to receive AM broadcasts.
If you have poor reception, connect a 20 to 50 ft. (6 to 15-meter) insulated wire to the AM antenna terminal in addition to the loop antenna. If possible, extend the wire out of doors and keep it horizontal.
(Do not remove the AM loop antenna.)

To prevent hum

If you install an outdoor antenna, connect the ground wire to the ANTENNA ground terminal (⏚) for lightning protection.

Connecting Audio Components

Make sure that you connect red plugs to the right channel (R) jacks and white plugs to the left channel (L) jacks.



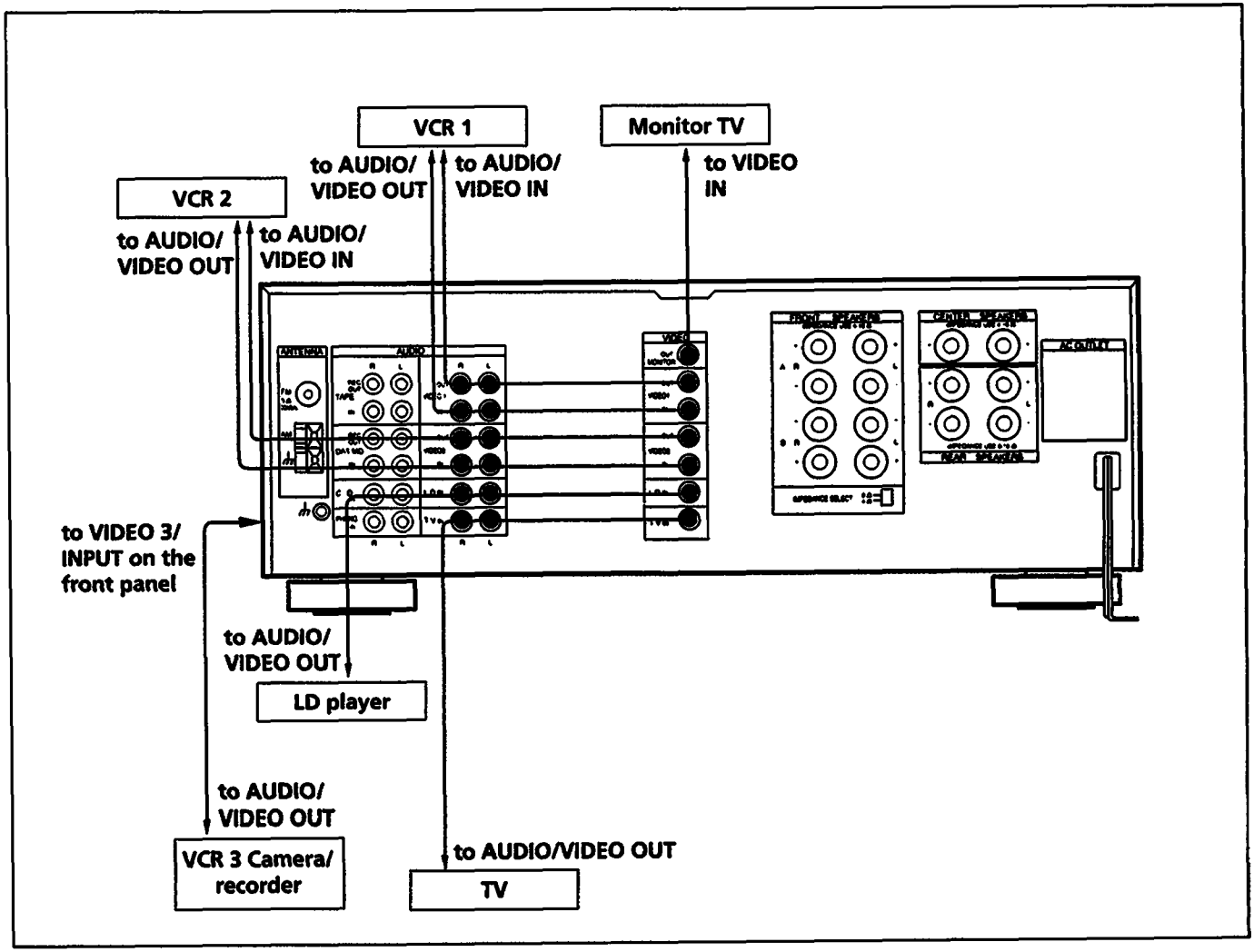
Note

The TAPE IN jacks are only for monitoring the sound so that you cannot record the sound of a component connected to the TAPE IN jacks. Use another IN jacks for recording.

Hookups (continued)

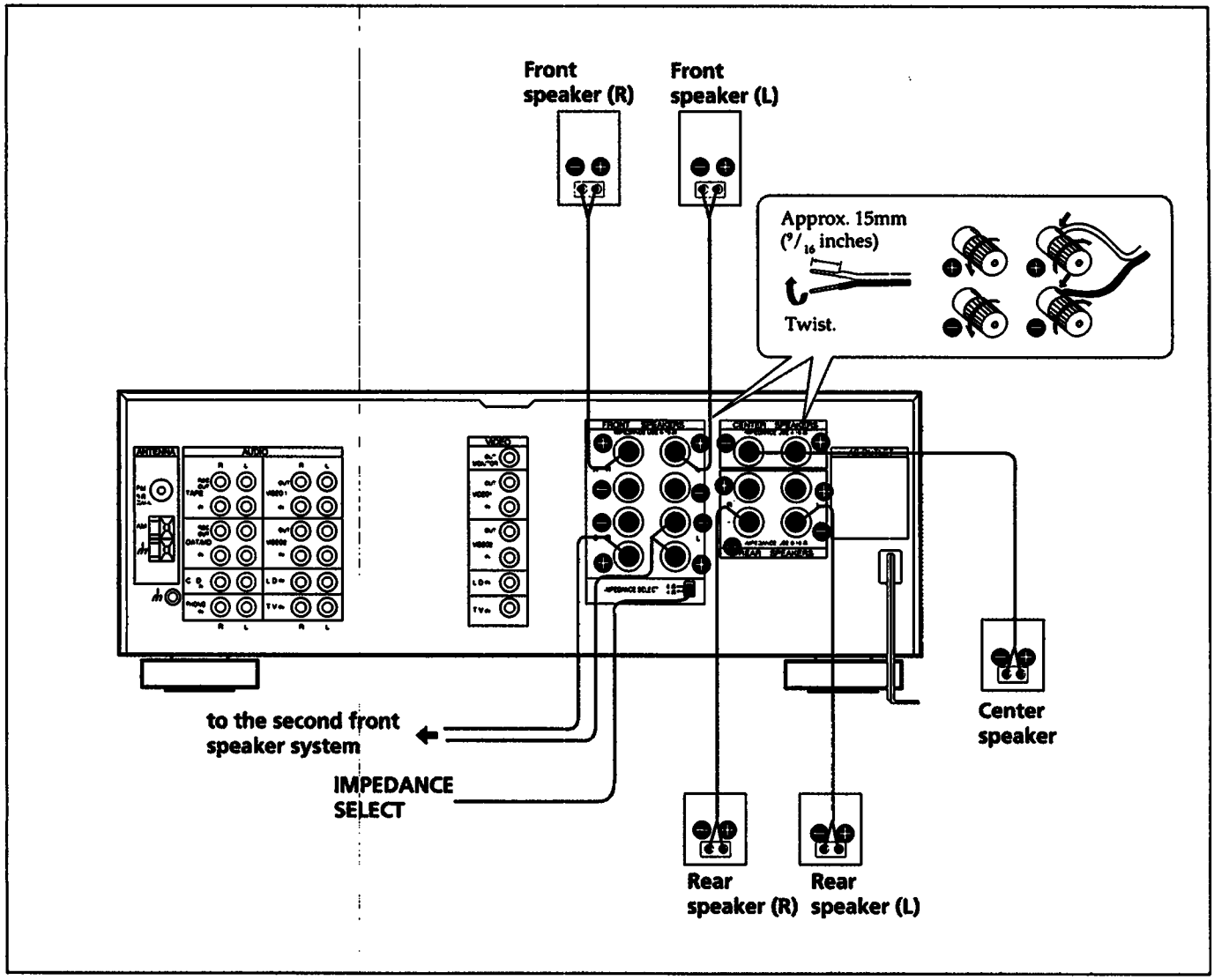
Connecting Video Components

Make sure that you connect each plug correctly: red plugs to the right channel (R) jacks of audio signals; white plugs to the left (L) channel jacks of audio signals; and yellow plugs to the video signals.



Connecting Speaker Systems

Make sure you match the + and – of the speaker cord to the +/– diagram on the speaker terminals. If the cords are reversed, the sound will be distorted and will lack bass.



On the IMPEDANCE selector
The STR-D1015 has the IMPEDANCE SELECTOR for front speakers.
When using the front speakers having nominal impedance from 4 ohms or higher, set to the 4 Ω position.
When using the front speakers having nominal impedance from 8 ohms or higher, set to the 8 Ω position.

Note
Use the front speakers having nominal impedance of more than 8 ohms in the SURROUND mode.

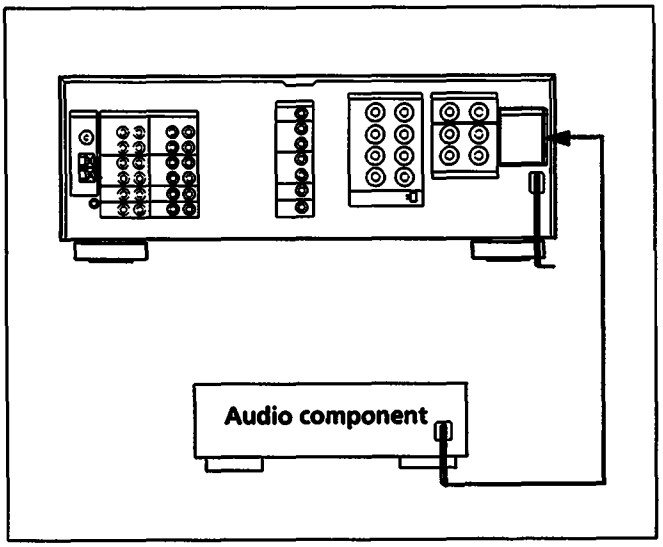
Note
When connecting the speaker cord to the speaker terminal, make sure that the polarity (+ and –) of the speaker cord is correct. If the polarity is reversed at either speaker, the sound will be distorted and will lack bass.

Deciding where to place your speakers
To get the optimum surround sound effect, connect both front and rear speakers. If you have a center speaker, place it between both left and right front speakers.
Even though you do not have a full set of speakers, the receiver is designed to give the best possible surround sound effect. For details, see "Selecting the Center Mode" on page 27.

Hookups (Continued)

Connecting the AC Power

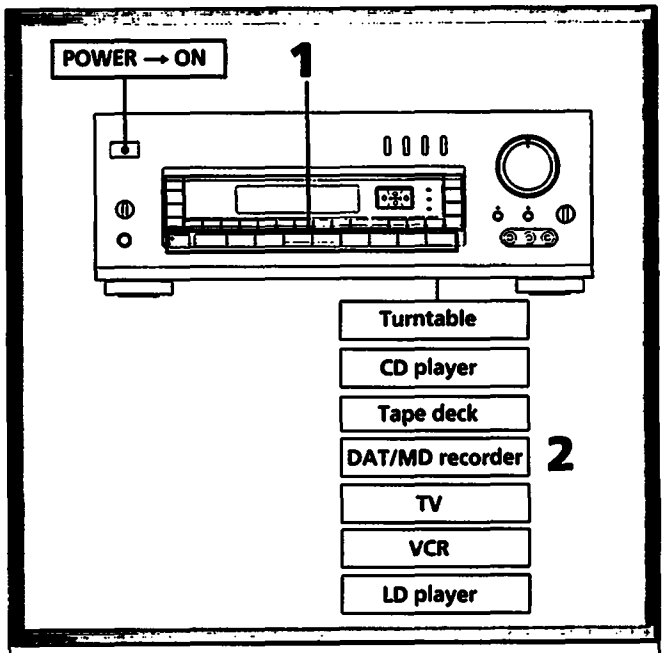
Connect the power cord from this receiver to a wall outlet. If you connect other audio components to the SWITCHED AC OUTLET on the receiver, the receiver will supply power to the connected components only when the receiver is turned on.



Caution
Be careful that the total power consumption of components connected to the outlet(s) on the receiver does not exceed 120 watts.
Do not connect electrical home appliances such as an electric iron, fan, TV, or other high-wattage appliances to the outlet(s).

Listening to/Watching a Program Source

Selecting a Program Source



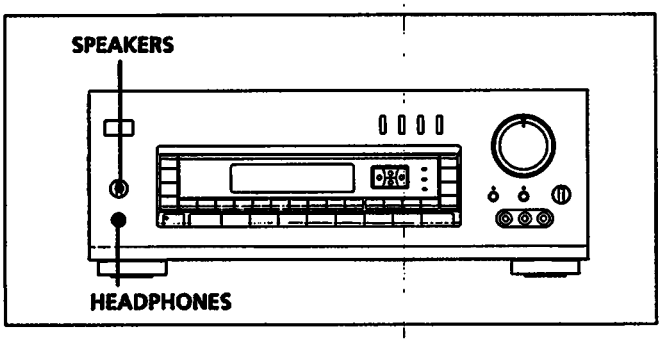
1 Select a program source.
When a function selector is pressed, the indicator of the function you have selected appears on the display.

To select	Set to
Phono record	PHONO
Radio Broadcast	TUNER
Compact disc	CD
DAT or MD program	DAT/MD
Taped program	TAPE MONITOR
Video program	TV, LD, VIDEO 1, VIDEO 2, VIDEO 3

Select the function with the remote commander, the power switches of both this receiver and the selected equipment connected to the AC outlets on the receiver are turned on.

2 Start playback of the selected program, for example, a CD.

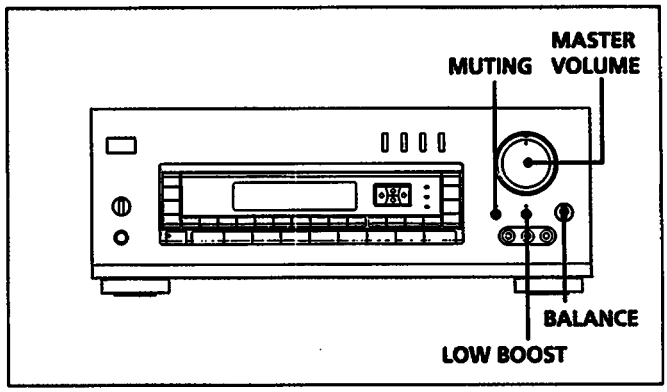
Selecting the Speaker System



If you connect and drive	Set the SPEAKERS selector to
Speaker system A	A
Speaker system B	B
Both speaker systems A and B	A+B

For headphone listening: Connect headphones to the HEADPHONES jack and set SPEAKERS to OFF.

Adjusting the Audio



To adjust volume
Turn MASTER VOLUME.

To mute the sound
Press MUTING.
The indicator lights up and the volume level is reduced to a low level (– 20 dB attenuation).
Press it again to restore the previous listening level.

To adjust the balance
Adjust BALANCE to correct stereo imaging, when the stereo image is not symmetrical.

To reinforce the bass
Press LOW BOOST so that the indicator lights up. Press it again to turn off the effect (the indicator goes off).
(Recommended for low listening levels.)

Using the Remote Control

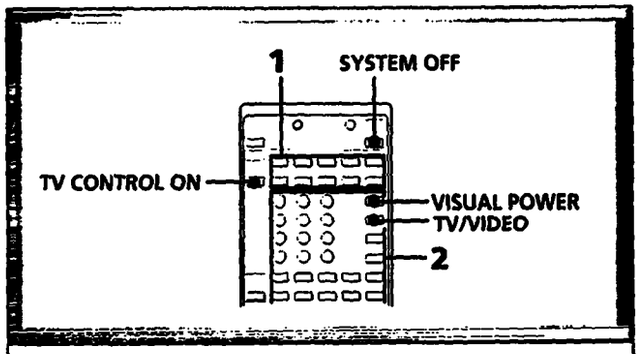
The remote lets you operate the connected components as well as the receiver. Press one of the SYSTEM CONTROL/FUNCTION buttons first to select the program source, then use the following buttons to operate each component.

The SYSTEM CONTROL/FUNCTION buttons are factory set as described in the following list.

FUNCTION button	Operates
TUNER	Tuner
TAPE	Tape deck
DAT/MD	DAT deck/MD recorder
CD	CD player
LD	LD player
VIDEO 1	VCR (VTR 1 mode)
VIDEO 2	VCR (VTR 2 mode)
VIDEO 3	VCR (VTR 3 mode)
TV	TV
PHONO	(The receiver enters PHONO mode)

You can use the RMS function of Sony cassette decks with this remote. For more information on the availability of Sony stereo cassette decks with RMS capability, contact your nearest Sony dealer.

Turning on power of each component



1 Press one of the SYSTEM CONTROL/FUNCTION buttons.
The receiver, the audio component connected to the AC OUTLET of the receiver, VCR, LDP and TV are turned on.

2 Press the button for the function you want to use.
The function of the buttons changes depending on which component you are operating. (See "Operative Buttons" in the right column and page 13.)

Turning off the power of components

- Pressing the SYSTEM OFF button turns off the power of all components at one time.
- Pressing the VISUAL POWER button turns off only the TV, VCRs and LD player.
- If you want to turn off the power while listening to a program source, see "Background operation" on page 13.

Operative buttons

FM/AM tuner

To	Press
Select memory pages for preset tuning	SHIFT
Designate preset numbers	Numeric buttons
Scan and select preset stations	CH PRESET +/–
Select station index names	INDEX

Tape deck/DAT/MD recorder

To	Press
Designate numbers	Numeric buttons
Designate number more than 10 (For tape deck and MD recorder)	>10
Fastforward	▶▶
Rewind	◀◀
Skip selections (For DAT and MD recorder)	▶▶| (forward), |◀◀ (reverse)
Pause play	II
Start play	▶
Start reverse play (For tape deck)	◀
Select the tape running direction (For tape decks with the RMS function)	RMS DIRECTION
Stop play	■
Clear the RMS program contents (For tape decks with the RMS function)	RMS CLEAR
Start recording (Forward direction)	● + ▶
Start recording (Reverse direction for tape deck)	● + ◀
Program selections (For tape decks with the RMS function)	RMS/START

CD player

To	Press
Designate numbers	Numeric buttons
Designate number more than 10	>10
Skip discs	D.SKIP
Search selections	▶▶ (forward), ◀◀ (reverse)
Skip selections	▶▶| (forward), |◀◀ (reverse)
Pause play	II
Start play	▶
Stop play	■

TV/VCR/LD player

To	Press
Designate channel numbers of TV/VCR or selections of LD	Numeric buttons
Designate selections of LD more than 10	>10
Enter the selected TV/VCR channel	ENTER
Select TV to see TV programs and VIDEO to see videos	TV/VIDEO
Select the output signal from the antenna terminal on the VCR: a TV signal or VCR program	ANT TV/VTR
Select a preset channel of TV or VCR	CH PRESET +/–
Fastforward (For VCR and LD player)	▶▶
Rewind (For VCR and LD player)	◀◀
Pause play (For VCR and LD player)	II
Start play (For VCR and LD player)	▶
Stop play (For VCR and LD player)	■
Skip selections (For LD player)	▶▶I (forward), I◀◀ (reverse)
Start recording (For VCR)	● + ▶
Turn on the power of TV, VCR, or LD player	VISUAL POWER

If you use Sony TVs

- When you press the VIDEO 1, 2, 3 or LD button, the TV automatically turns on and switches to the appropriate VIDEO input.
- When you press the TV button, the TV turns on and switches to the TV reception mode. (If the TV does not switch to the TV reception mode, hold down the button until the TV is turned on or press the button again after the TV is turned on.)
- If the TV input does not switch to the appropriate mode, switch the input signal by pressing the TV/VIDEO button.
- Some Sony TVs cannot be turned on with the remote supplied with this unit. In this case, use the remote supplied with the TV to turn it on.

If you use TV most of the time (Only for Sony TVs)

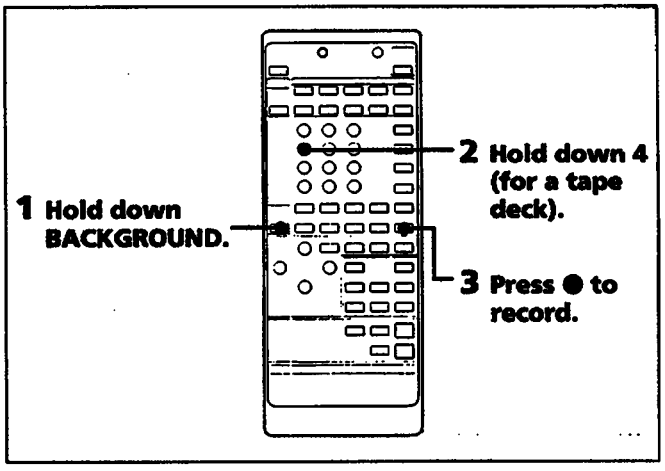
You can set the remote to operate only the TV. Press the TV CONTROL ON button. This sets up the remote so that it works only with your TV.

Background operation

You can temporarily operate other components while listening to/watching a program source.

1 Hold down the BACKGROUND button.
2 Hold down the numeric button* of the component you want to operate.
3 Press the button for the operation that you want to perform.
You can use certain buttons such as VISUAL POWER, TV/VIDEO, CH PRESET +/–, ANT TV/ VTR, D.SKIP, ▶, ◀, ■, ▶▶, ◀◀, ▶▶I, I◀◀, II, ●.

Example: To record a CD that is playing on a tape:



Note

You can record only in the forward direction with background operation.

* For a list of the components that are assigned to the numeric buttons, see the table in "Changing the Settings of the FUNCTION Buttons" on page 14.

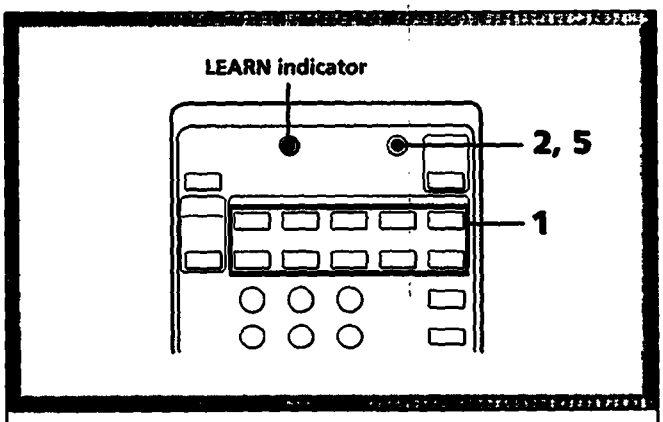
Programming the Remote Control

This remote can operate other components that are connected to the receiver. In addition, the remote can literally "learn" the signals from non-Sony components and let you control them.

Programming Signals for Non-Sony Components

Once this remote learns the signals of the other components, you can use other non-Sony components as part of your system. Also if any of your other Sony components fail to operate with this remote, use this programming function. Your remote can "learn" only the signals from remotes that are infrared wireless remotes. Before you program signals, make sure that the two remotes:

- face straight each other (as shown in step 3 below)
- are placed at a distance of approximately 2 inches (5 cm)
- are not moved during programming

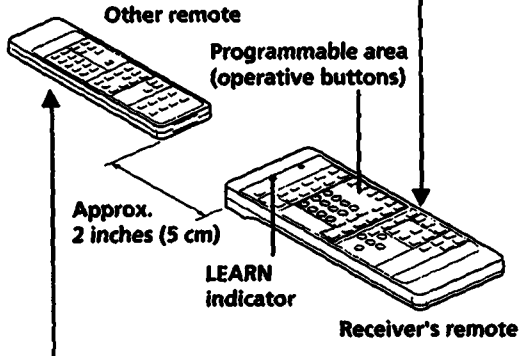


1 **Press the FUNCTION button of the component to be programmed.**
For example, if you want to program a CD player's remote control, press CD.

2 **Press the LEARN button with a ball-point pen, etc., so that the indicator lights up.**

3 **Program a signal.**

① On this receiver's remote, press the button that is to "learn" the signal from the other remote until the LEARN indicator blinks slowly.



② On the other remote, hold down the button you want the receiver's remote to "learn."

③ Remove your finger(s) from the button(s) after the LEARN indicator on this remote lights up.

Note
You can program only specific buttons for specific components. See "Operative Buttons" on pages 12 and 13 for a list of the buttons that can be programmed for each component type. If you press a button that cannot be programmed in step ①, the LEARN indicator blinks rapidly.

4 **Repeat step 3 for other buttons that you want to program.**

5 **Press the LEARN button with a ball-point pen, etc.**
The LEARN indicator lights for a few seconds. After the indicator goes off, you can control other components with the programmed buttons.

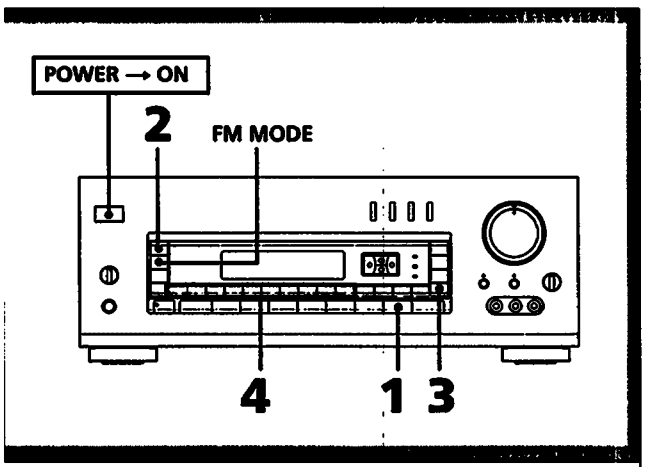
Note
If you do not perform the next operation in about one minute after steps 2 and 3-①, the learning mode will be canceled. If this happens, start again at step 1.

Receiving Broadcasts

ou can tune in a radio station directly or you can have the receiver scan all the stations until it finds the one ou want. Once you preset stations on the receiver, you do not have to tune in the station every time.

Direct Tuning

se direct tuning if you know the frequency of the station ou want. For example, to tune in FM 102.50 MHz, press l", "0", "2", "5" and "0."
you enter a frequency not covered by the tuning interval, ıe entered value is automatically rounded up or down to ıe closest covered value.
uning intervals for direct tuning are set as follows:
M: 50 kHz interval
M: 10 kHz interval (changeable to the 9 kHz interval)
(See page 35)



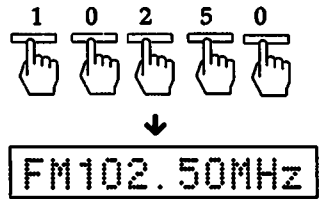
1 **Press TUNER.**
The station's frequency number is displayed. If you create a station index name (page 22), this name is displayed instead of the frequency number.

2 **Press FM/AM to select FM or AM.**

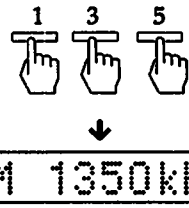
3 **Press DIRECT.**

4 **Enter the frequency with the numeric buttons.**
The frequency number is displayed.

Example 1: FM 102.50 MHz



Example 2: AM 1350 kHz



If you enter an AM frequency, you do not have to enter the last "0".
However, if you have changed the AM tuning interval to 9 kHz, you must enter till the last digit.

To change the frequency
Repeat steps 3 and 4.

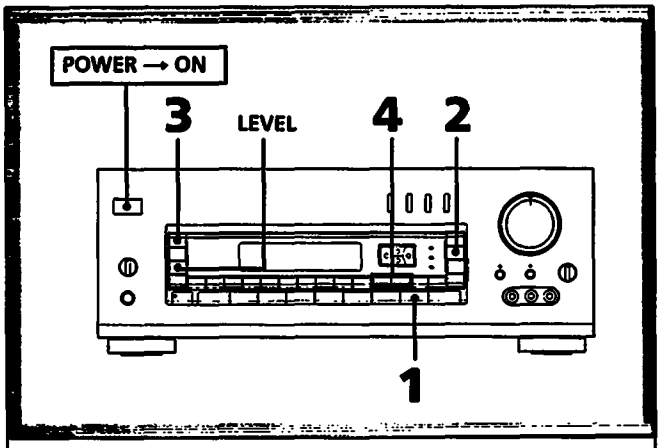
If you enter a non-receivable frequency
The entered digits blink in the frequency display area, and the station is not tuned in.
If this occurs, enter the correct frequency.
The frequency range of the receiver is as follows:
- 87.50 to 108.0 MHz for FM, and 530 to 1710 kHz (10 kHz step) or 531 to 1710 kHz (9 kHz step) for AM

If an FM stereo program is distorted
You might want to change it to monaural. Press the FM MODE button to change the mode over to mono. You will not have the stereo effect, but the distortion will be reduced. To return to the stereo mode, press the button again.

Receiving Broadcasts

Automatic Tuning

In automatic tuning, the receiver scans all the stations to locate the one you want. If you do not know the frequency of the station that you want, use automatic tuning.



1 **Press TUNER.**
The station's frequency number is displayed. If you create a station index name (page 22), this name is displayed instead of the frequency number.

2 **If the index name is displayed, press DISPLAY until "NORMAL MODE" appears on the display.**
The frequency number is displayed.

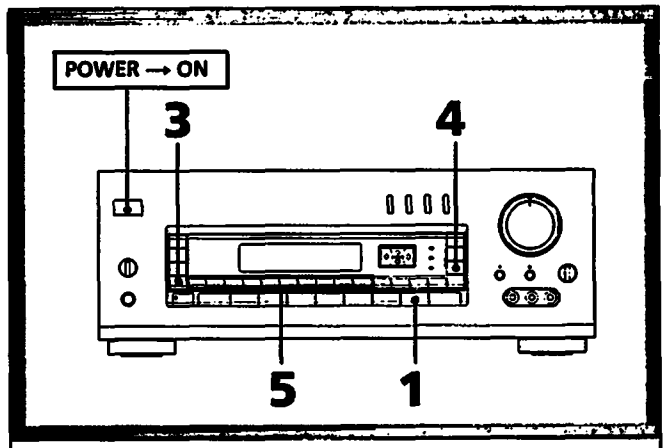
3 **Press FM/AM to select FM or AM.**

4 **Press INDEX SELECT/TUNING + or –.**
For a higher frequency, press INDEX SELECT/ TUNING +.
For a lower frequency, press INDEX SELECT/ TUNING –.
When a station is received, automatic tuning stops. To receive other stations, press the button again.

If the scanning stops frequently while receiving FM stations
Press LEVEL so that the receiver stops only at the stations with strong signals. To cancel this (to receive stations with weaker signals), press LEVEL until HIGH goes off.

Presetting Stations

You will most likely want to preset the stations you listen to often. The receiver can store a total of 30 FM or AM stations. Up to 10 stations can be stored in three different memory pages: A, B and C. (For example, a station is stored as A7 or B3.)



1 **Press TUNER.**
The station's frequency number is displayed. If you create a station index name (page 22), this name is displayed instead of the frequency number.

2 **Tune in the station you want.**
(See "Direct Tuning" on page 15 or "Automatic Tuning" in the left column.)

3 **Press MEMORY.**
"MEMORY" is displayed.

4 **While "MEMORY" appears, press SHIFT to select a memory page: A, B or C.**
Each time you press SHIFT, A, B or C is displayed.

5 **While "MEMORY" appears, press the number you want to use.**
Repeat steps from 2 through 5 for presetting other stations.

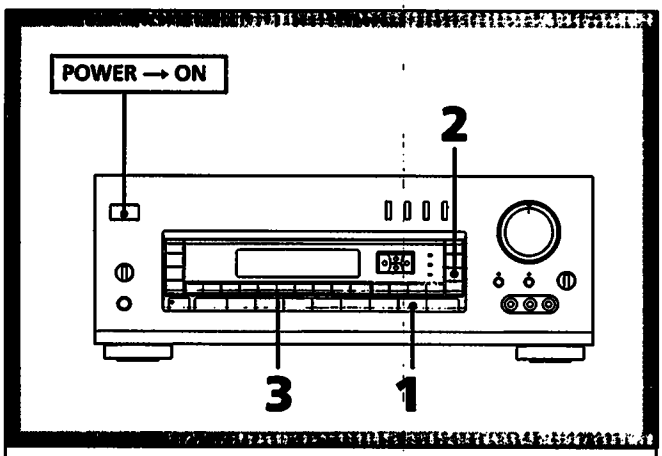
To change a preset station
Preset a new station on the number of the station to be changed. The station will be replaced.

IMPORTANT
If the power cord is disconnected for more than one month, the preset stations will disappear from the receiver's memory, and you will have to preset the stations again.

Receiving Preset Stations

You can tune in a preset station either by entering the preset station number or by scanning the preset stations.

By entering preset numbers

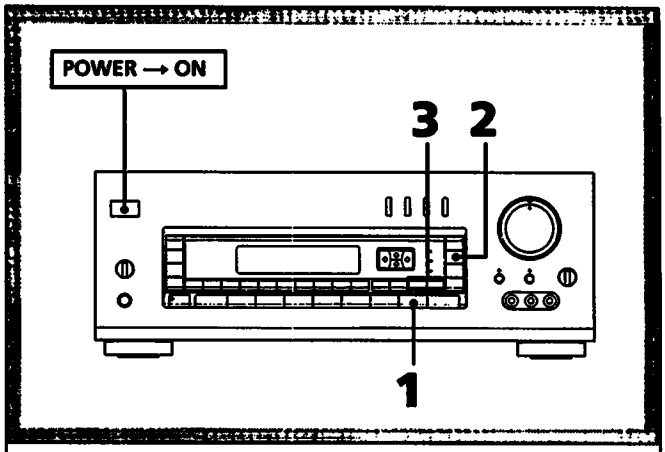


1 **Press TUNER.**
The station's frequency number is displayed. If you create a station index name (page 22), this name is displayed instead of the frequency number.

2 **Press SHIFT to select a memory page: A, B, or C.**
Each time you press SHIFT, A, B or C is dispalyed.

3 **Press the numeric button of the preset station you want.**

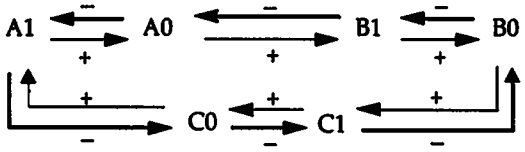
By scanning preset stations



1 **Press TUNER.**
The station's frequency number is displayed. If you create a station index name (page 22), this name is displayed instead of the frequency number.

2 **If the index name is displayed, press DISPLAY until "NORMAL MODE" appears on the display.**
The frequency number is displayed.

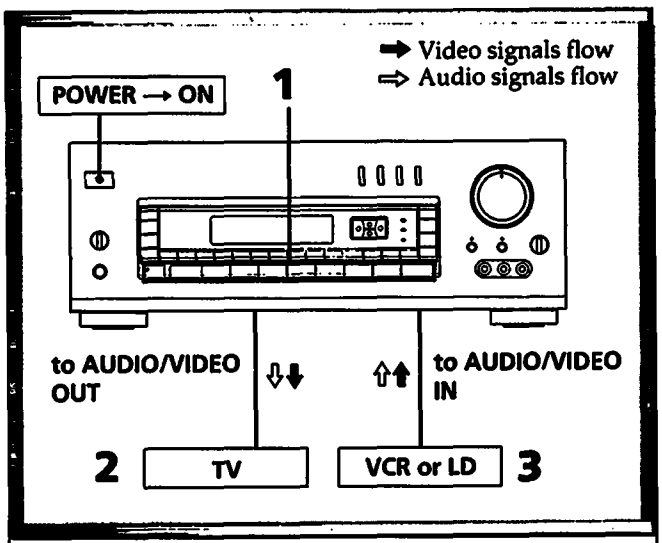
3 **Press PRESET TUNING + or – to select the preset station you want.**
For a higher preset number, press PRESET TUNING +.
For a lower preset number, press PRESET TUNING –.



Watching Video Programs

Watching Video Programs

When you watch video programs on your TV, VCR or LD player, we recommend that you play the audio portion of the video through the receiver (instead of your TV's speakers), so that you can take advantage of sound field programs, including Dolby surround sound. In this case, set the speaker volume of TV to the minimum level.
To watch TV programs, turn on both TV and the receiver and press TV button on the receiver. To watch videos or laser discs, use the following procedure if you've hooked up your components as described in "Connecting Video Components" on page 8. See your TV, VCR, LD player's instruction manual if you need help.



1 **Press one of the function buttons to select the program source you want (for example, VIDEO 1).**

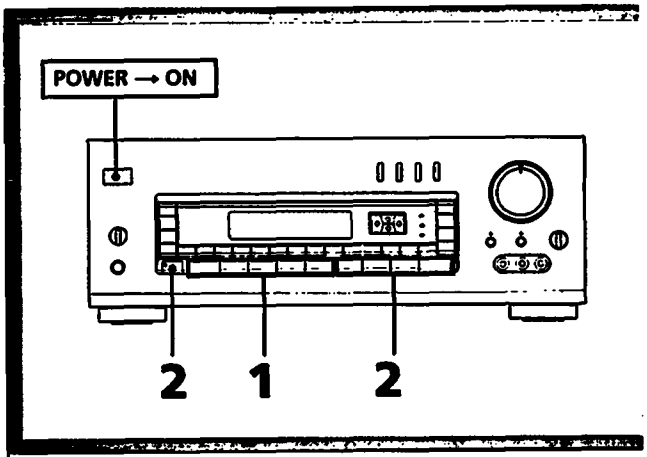
2 **Turn on the TV and set the video input to your video component.**

3 **Turn on the component you're going to use (VCR or LD player), and then start playback.**

If you use a Sony TV
The TV turns on automatically when you press one of the SYSTEM CONTROL/FUNCTION buttons on the remote. Moreover, you can use convenient functions of the remote to watch a video program source on a Sony TV. See page 13.

Combining a Video Image with the Sound from Another Program Source

You can combine a video image with sound from another program source.
For example, you can watch a video taped program (withou original sound) while listening a CD.



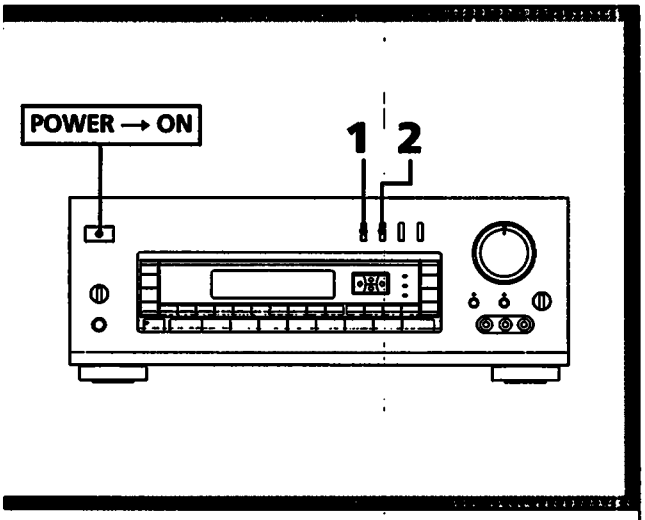
1 **Press a function button to select the video source**

2 **Press a function button to select the audio source.**

3 **Start playing the both video and audio source.**

Using Pre-programmed Sound Fields

his receiver comes with 6 pre-programmed sound fields. You can use these sound fields
› simulate the sound you would experience in various listening environments. In
ddition to these pre-programmed sound fields, you can also create custom sound custom
elds. For creating custom sound fields, see pages 27 - 32.



1 **Press SOUND FIELD ON/OFF to ON.**
The previously selected sound field setting appears on the display.

2 **Press SOUND FIELD MODE until the sound field indicator that you want lights up on the display.**
Try out different fields using the following table as a reference. Note that some fields are designed specifically for video programs.

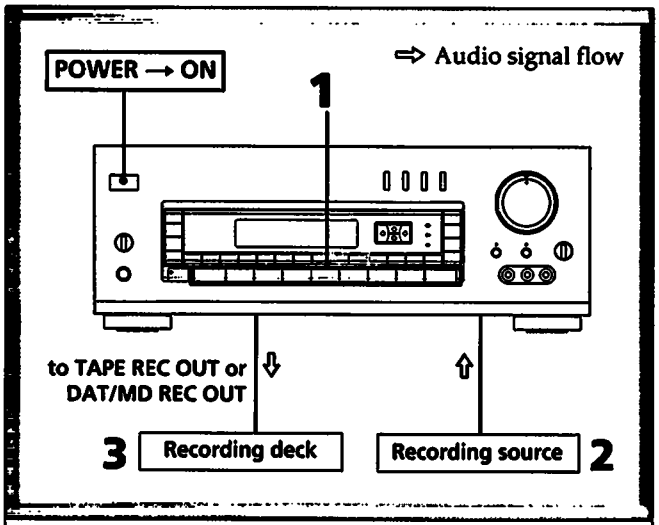
	SOUND FIELD	Applications
VIDEO	**DOLBY SUR**	For Dolby surround encoded video programs
VIDEO	**THEATER**	For movie programs on video tapes or laser discs
VIDEO	**LIVE**	For music programs on video tapes or laser discs
AUDIO	**HALL**	For orchestral music, chamber music or an instrumental solo
AUDIO	**DANCE**	For dance music
AUDIO	**ACOUSTIC**	The surround effect is defeated and only the tone effect can be obtained.

Recording

This receiver makes audio/video recording and editing easier. Before you get started, make sure all the AV components are connected properly.

Recording on a Tape, DAT or an MD Recorder

You can record and make copies of audio program sources on a tape, DAT or MD using the receiver. See your tape deck, DAT deck or MD recorder's instruction manual if you need help.



1 **Press a function button to select the recording source.**

2 **Set the recording source to be ready for playback.**
For example, tune in the desired station for an FM/AM broadcast.

3 **Insert a blank tape into the recording deck or disc into the MD recorder and adjust the recording level, if necessary.**

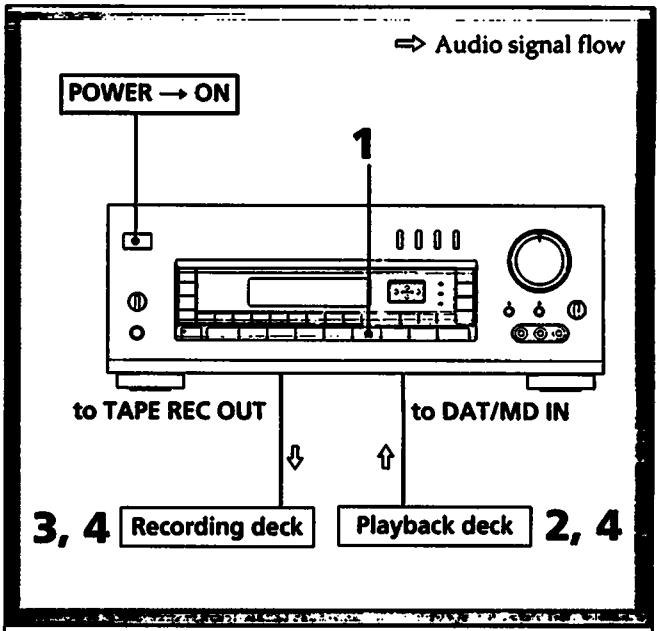
4 **Start recording on the recording component and then start playing the recording source.**

You can monitor the sound being recorded on a tape

If you record on a 3-head tape deck connected to TAPE REC OUT jacks, you can monitor the recording results by connecting it also to TAPE IN jacks. Press TAPE MONITOR while recording or dubbing until the TAPE MONITOR indicator lights up. To listen to the source sound, press the button again until the indicator goes off.

Recording from Another Tape (Dubbing)

Tape dubbing is possible only in the directions that are shown below. Be sure to connect a playback deck to DAT/MD IN jacks and a recording deck to TAPE REC OUT jacks.



1 **Press DAT/MD to select the deck for playback.**

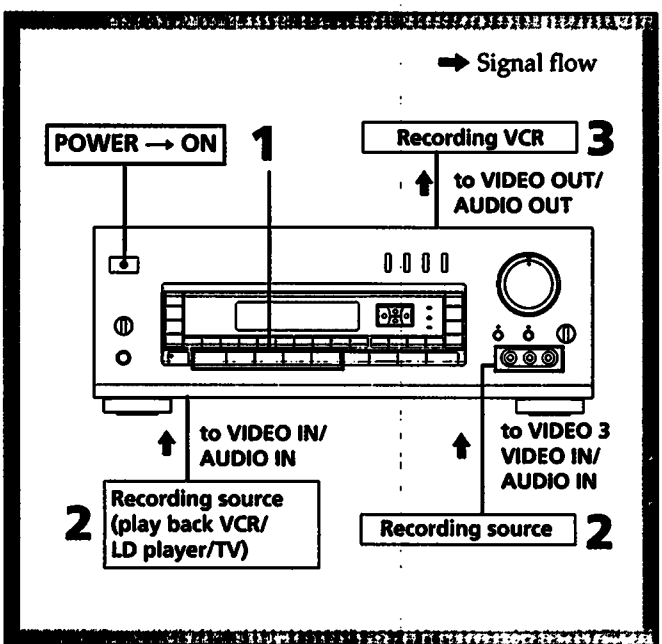
2 **Insert the tape you want to record into the playback deck.**

3 **Insert a blank tape into the recording deck. Adjust the recording level, if necessary.**

4 **Start playback on the playback deck. Then start recording on the recording deck.**
Dubbing will start.

Recording on a Video Tape

You can record and make copies of programs from other VCR, LD player or TV using the receiver. See your VCR, LD player or TV's instruction manual if you need help.



1 **Press a function button to select the recording source.**

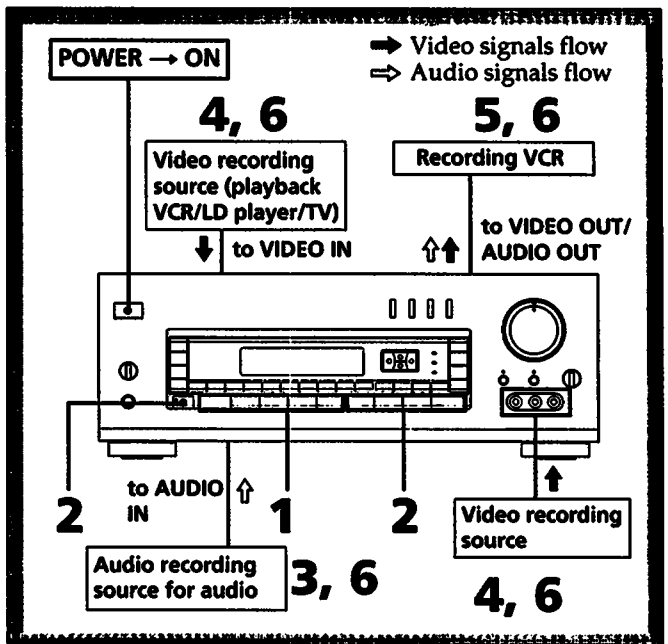
2 **Set the recording source to be ready for playback.**
For example, insert a source tape you want to record from into the playback VCR.

3 **Insert a blank video tape into the recording VCR.**

4 **Start recording on the recording VCR and then start playing the recording source.**

Adding New Sound on a Video Tape during Video Editing

You can record audio from various audio program sources while recording video, LD or TV programs on a video tape instead of their original sound. See your VCR, LD player or TV's instruction manual if you need help.



1 **Press a function button to select the video you want.**

2 **Press a function button to select the program source which contains the audio you want.**

3 **Set the audio recording source to be ready for playback.**

4 **Set the video recording source to be ready for playback.**

5 **Insert a blank video tape into the recording VCR.**

6 **Start recording on the recording VCR and then start playing the both video and audio recording source.**

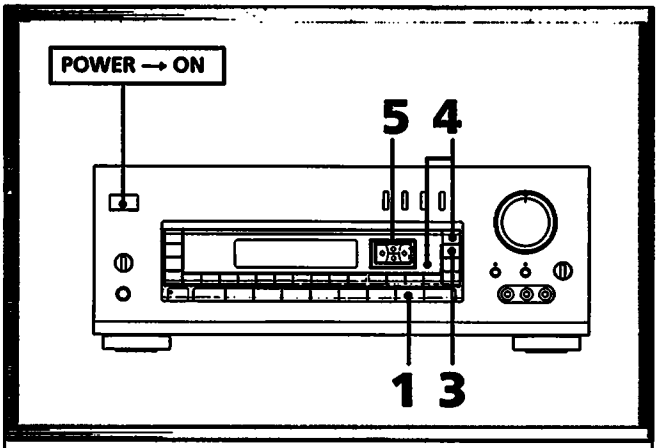
To record other audio on a desired part of video
After step 5, play back the video recording source and press the pause button on it at the point where you want to record other audio.
Start recording on the recording VCR, release the pause mode and start playing the audio recording source.

Indexing Preset Stations

You might find that too many preset stations make it hard to find the one you want to listen to. This receiver includes a feature that lets you group preset stations and give each group a name (station index). For example, you can group all the Jazz stations and label them "JAZZ." The next time you select "JAZZ," you can scan all the stations labeled "JAZZ."

Creating an Index Name for a Preset Station

You can create an index name (station index) using up to five letters and symbols each.



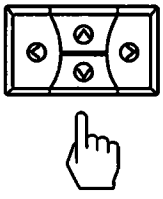
1 **Press TUNER.**
The station's frequency number is displayed. If you have already created a station index name, this name may be displayed instead of the frequency number.

2 **Tune in the preset station that you want to create a station index name for.**
To receive the preset station, see page 17.

3 **Press DISPLAY until "INDEX MODE" appears on the display.**
Each time you press this button, frequency and station index name (if you have created one) alternately appears on the display.
If you have not stored an index name "_ _ _ _ _" appears.

4 **Press DPC MODE until the INDEX indicator lights up.**

5 **Create an index name.**



To select a letter (A to Z) or number (1 to 4), press ∧ or ∨.
To change the position within the name, press < or >.

6 **Repeat steps 2 through 5 for all other stations to which you want to assign an index name.**

If you store an already categorized station under any other index name
Only the last selected category will be stored. Each station can be stored under only one index name.

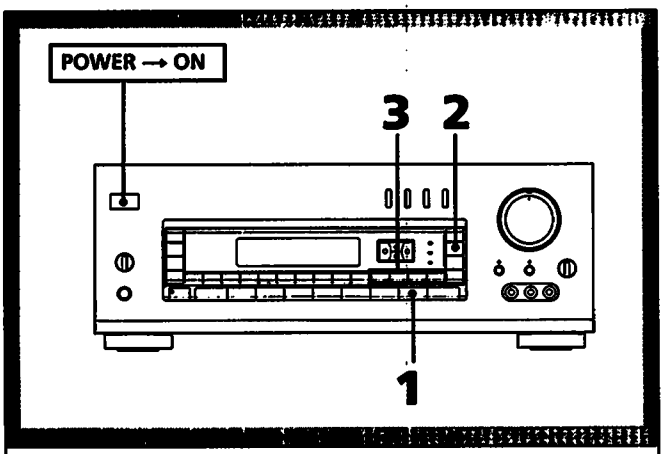
Usable letters and symbols
You can use any of the following characters to create a station index name:

A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, 1, 2, 3, 4, –, (space)

To display the frequency and index name of preset stations
Each time you press DISPLAY, frequency and index name of the preset station are alternately displayed.

Scanning the Indexed Stations

You can easily find the station you want by scanning the indexed stations.



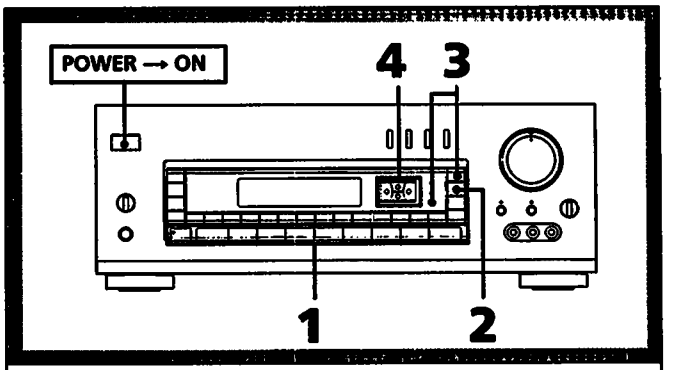
1 **Press TUNER.**
The station index name you created appears on the display, The frequency number appears if you have not created the station index name on that station.

2 **Press DISPLAY until "INDEX MODE" appears on the display.**
Each time you press this button, frequency and station index name (if you have created one) alternately appears on the display.
If you have not stored an index name "_ _ _ _ _" appears.

3 **Select the station you want.**
- To select a station in the same index:
  Press PRESET TUNING + for a higher channel index station and press PRESET TUNING – for a lower channel index station.
- To select an index station other than the displayed index station:
  Press INDEX SELECT/TUNING + or – once. Then press PRESET TUNING + for a higher channel index station and press PRESET TUNING – for a lower channel index station.

Indexing a Program Source

In addition to indexing preset radio stations (see page 22), you can also create a name (index name) for program sources (e.g., CD, TAPE, etc.). For example, if you connected a second tape deck to the DAT/MD jacks, you will most likely want to display as "TAPE 2" (instead of "DAT/MD") when you use the second tape deck. The name you create appears in the display whenever you select that program source. You can use up to 11 letters and symbols for each index name.

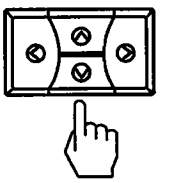


1 **Select the program source (except TUNER) that you want to create an index name for.**

2 **Press DISPLAY to select the NAME mode.**
"NAME MODE" appears.

3 **Press DPC MODE until the INDEX indicator lights up.**

4 **Create an index name.**



To select a letter (A to Z) or number (1 to 9), press ∧ or ∨.
To change the position within the name, press < or >.

5 **Repeat steps 1 to 4 for all other program sources you want to assign an index name to.**

Indexing a Program Source (Continued)

To change the index name
Store a new name to replace it.

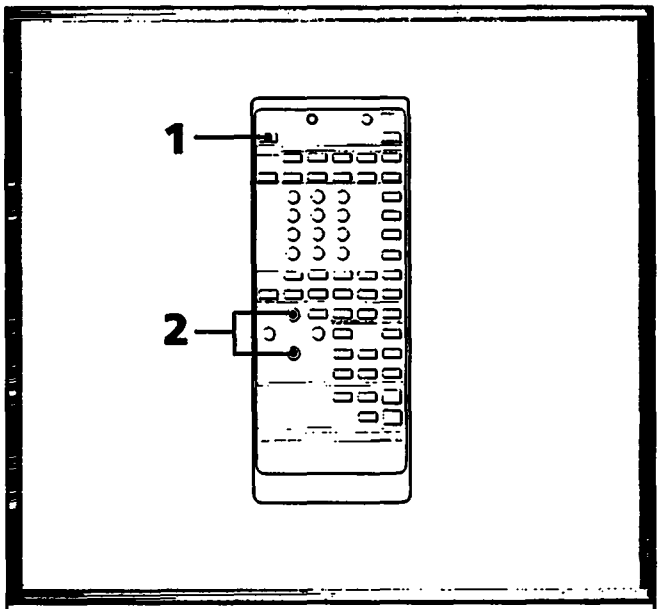
Usable letters and symbols
You can use any of the following characters to create a function index name:

A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, 1, 2, 3, 4, 5, 6, 7, 8, 9,–, (space)

To switch the original function name display and created index name display
Each time you press DISPLAY, the selected function name (which corresponds to the function selector) and the created index name are alternately displayed.

Using the Sleep Timer

You can set the receiver to turn off automatically at a time that you specify.



1 **Press SLEEP on the remote while the power is on.**
Each time you press SLEEP, the time is displayed in the following order:
2 hours → 1 hour and 30 minutes → 1 hour → 30 minutes → SLEEP OFF.

2 **Press ∧ or ∨ to precisely specify the sleep time, if necessary.**
You can change the sleep time by 1 minute and extend the time up to 5 hours.

When the sleep timer function is turned on, the display becomes dimmer.

To check the remaining time of the sleep timer
Press SLEEP. The remaining time is displayed.

Note
After you have checked the remaining time, the display returns to the function display and becomes dimmer.

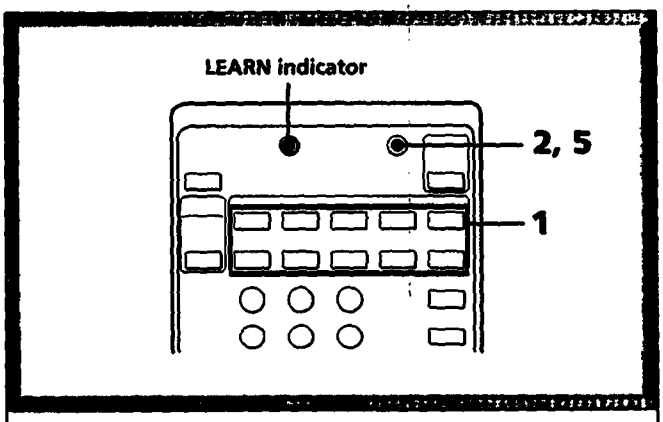
Programming the Remote Control

This remote can operate other components that are connected to the receiver. In addition, the remote can literally "learn" the signals from non-Sony components and let you control them.

Programming Signals for Non-Sony Components

Once this remote learns the signals of the other components, you can use other non-Sony components as part of your system. Also if any of your other Sony components fail to operate with this remote, use this programming function. Your remote can "learn" only the signals from remotes that are infrared wireless remotes. Before you program signals, make sure that the two remotes:

- face straight each other (as shown in step 3 below)
- are placed at a distance of approximately 2 inches (5 cm)
- are not moved during programming

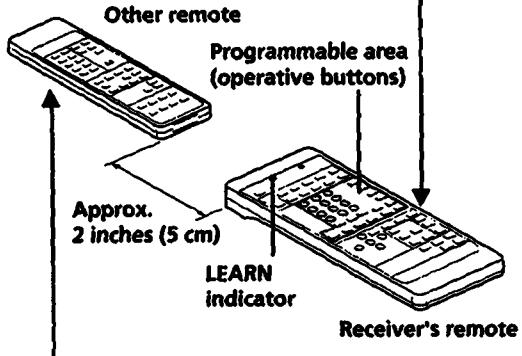


1 **Press the FUNCTION button of the component to be programmed.**
For example, if you want to program a CD player's remote control, press CD.

2 **Press the LEARN button with a ball-point pen, etc., so that the indicator lights up.**

3 **Program a signal.**

① On this receiver's remote, press the button that is to "learn" the signal from the other remote until the LEARN indicator blinks slowly.



② On the other remote, hold down the button you want the receiver's remote to "learn."

③ Remove your finger(s) from the button(s) after the LEARN indicator on this remote lights up.

Note
You can program only specific buttons for specific components. See "Operative Buttons" on pages 12 and 13 for a list of the buttons that can be programmed for each component type. If you press a button that cannot be programmed in step ①, the LEARN indicator blinks rapidly.

4 **Repeat step 3 for other buttons that you want to program.**

5 **Press the LEARN button with a ball-point pen, etc.**
The LEARN indicator lights for a few seconds. After the indicator goes off, you can control other components with the programmed buttons.

Note
If you do not perform the next operation in about one minute after steps 2 and 3-①, the learning mode will be canceled. If this happens, start again at step 1.

Programming the Remote Control (Continued)

After programming
Be sure to test that the component really works with the programmed signals.

How many signals can you store in memory?
You can store approximately 60 signals, depending on the format of the signal being used.

Memory capacity
If the LEARN indicator does not blink or light in step 3-① or ③, this indicates that the memory capacity is full. In this case, clear the signal stored in that button following the procedure described in "To clear a programmed signal" and program again from the beginning. When programming, avoid the following conditions.

- Placing the remotes too far apart from each other.
- Exposing the remotes to intense light such as of invertor fluorescent lamp.
- Receiving infrared signals of another appliance's remote.

Notes on programming

- Remote control signals of components of manufacturers other than Sony can be programmed only when they are compatible with the infrared wireless remote control system. Since the programmable remote can "learn" only the signals output from another remote, it cannot control components that do not use a remote.
- Do not attempt to use the programmable remote with an air conditioner or other household appliance.
- Note that there are some special remote control signals that cannot be programmed.
- The SYSTEM CONTROL/FUNCTION button of this remote does not work for the other components even if their signals are programmed.

Programming a New Signal onto a Previously Programmed Button

Follow the programming procedure described on page 25. The previously programmed signal is cleared and replaced by the new signal.

To clear a programmed signal

1 Press the LEARN button with a ball-point pen, etc., so that the LEARN indicator lights up.
2 Press the button to be cleared while pressing the BACKGROUND button until the LEARN indicator goes off.

To program a signal onto the ● button for recording
It is not possible to operate any component with only the ● button. You have to program the record standby signal and record start signal under the ● + ► button on the receiver's remote. With a tape deck, you can also program the signal under the ● + ◄ button (in the reverse direction).

Notes on batteries
If the LEARN indicator does not light when a button is pressed, this means that the batteries are low.
When the batteries are low, the remote can no longer operate the unit and programming becomes impossible.
If this happens, replace both batteries with new ones. We recommend you use alkaline batteries for extended use.

Getting the Most out of Dolby Surround Sound

Many video tapes and laser discs available today are encoded with Dolby surround sound, which adds theater-like sound to your viewing experience. To take advantage of Dolby surround sound, first select the pre-programmed Dolby Surround sound field. To make most out of the Dolby surround sound, however, we recommend that you select the center mode and adjust the speaker volume based on your speaker configuration. Also, if you have rear speakers, you can adjust the timing of the sound that comes from the rear speakers (delay time).

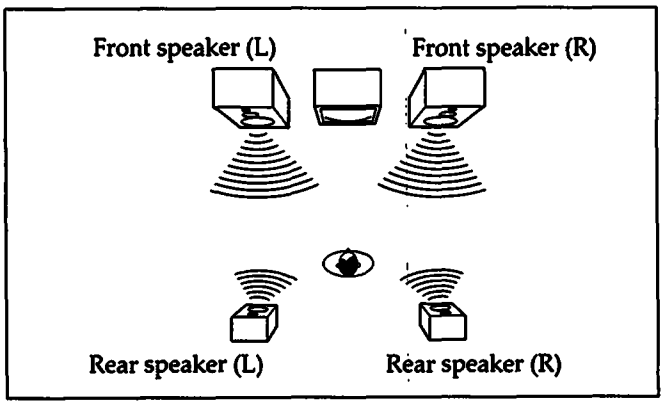
Selecting the Center Mode

Since all speakers are different, the receiver offers you four types of speaker configurations (Phantom, 3 Ch Logic, Normal, Wide). To best fit your speaker system, you can change how the sound comes from each speaker by selecting one of these four configurations. Once you make the adjustments, you do not have to adjust them again unless you change your speaker system.

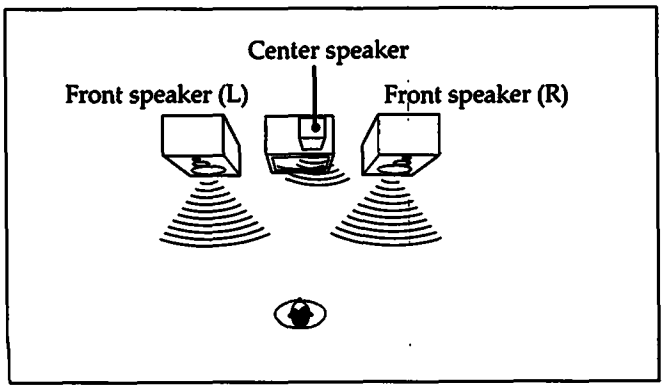
Each time you press the CENTER MODE button, the CENTER MODE is changed in the following order:

→ PHANTOM → 3 CH LOGIC → NORMAL → WIDE

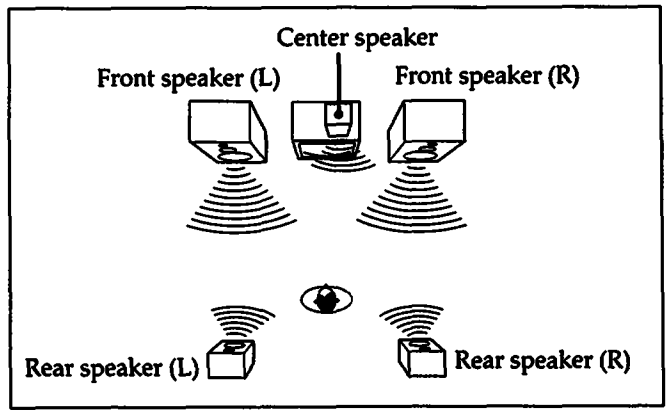
If you do not have a center speaker
→ Select PHANTOM mode.
The sound of the center channel is output from the front speakers.



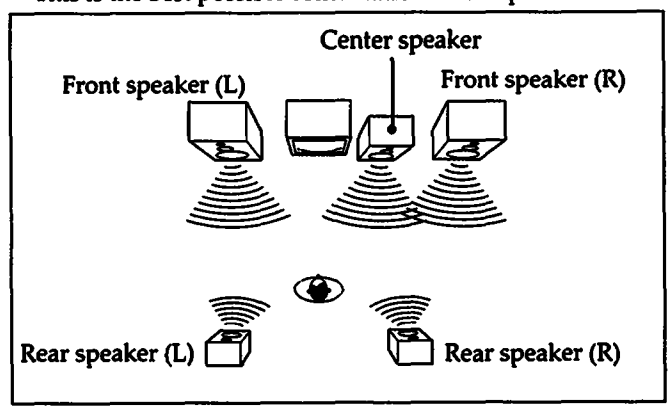
If you have only front speakers and a center speaker
→ Select 3 CH (Channel) LOGIC mode.
The sound of the rear channel is output from the front speakers.



If you have a small center speaker
→ Select NORMAL mode.
The bass sound of the center channel is output from the front speakers, because a small speaker cannot produce enough bass.



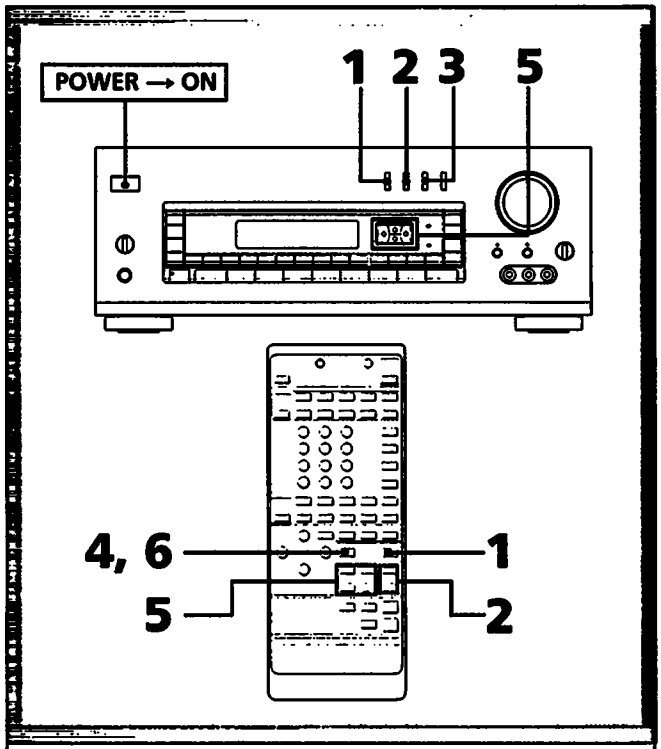
If you have a medium to large center speaker
→ Select WIDE mode.
This is the best possible combination of the speakers.



Note
The Dolby Pro Logic Surround Decoder is a system to decode the software carrying the DOLBY SURROUND mark.

Adjusting the Speaker Volume

To obtain the best possible surround sound, set the volume of the front, center, and rear speakers to the same level. A Test Tone feature lets you test the volume of each speaker set. You can adjust the volume level from your listening position using the remote.



1 **Press SOUND FIELD ON/OFF to ON.**
The indicator of the last selected sound field lights up.

2 **Press SOUND FIELD MODE so that DOLBY SUR indicator lights.**

3 **Press the CENTER MODE button to select the center mode according to your speaker system.**
Refer to "Selecting the Center Mode" on page 27.

4 **Press T. TONE on the remote control to set to on.**

5 **Adjust the volume level so that sound from each speaker will be the same level at your listening position.**

To adjust the level of center speaker
Press CENTER LEVEL +/– on the remote commander.

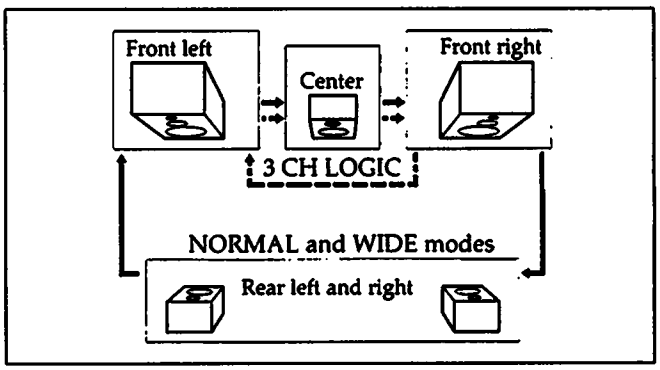
To adjust the level of rear speakers
Press REAR LEVEL +/– on the remote commander.

When operating with buttons on the front panel:
Press ∧ or ∨ to select the CENTER LEVEL or REAR LEVEL.
Press < or > to adjust the level.

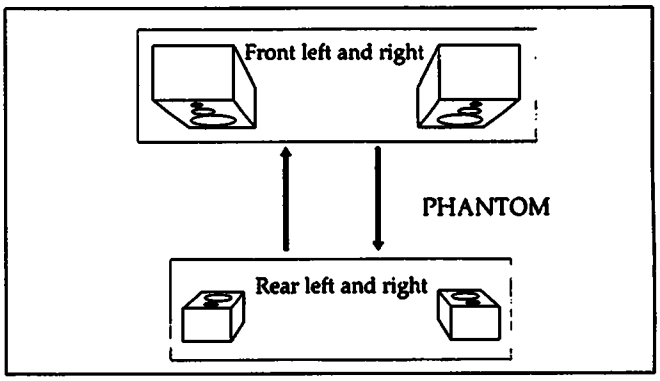
(When adjusting the MASTER VOLUME control on the receiver, all speakers are adjusted simultaneously.)

6 **Press T. TONE on the remote commander to set to off.**

Sequence of the test tone
In a system with a center speaker:
The test tone will be output automatically from the front L (Left), center, front R (Right), and the rear speakers in succession.



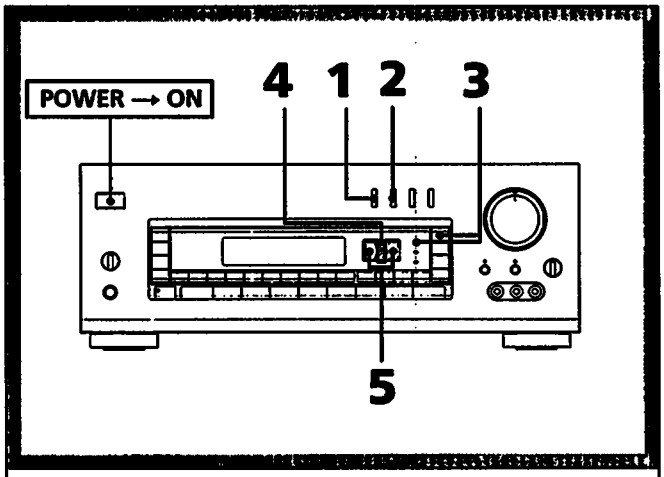
In a system without a center speaker:
The test tone will be output automatically from the front left and right speakers and the rear speakers alternately.



Adjusting the Delay Time of the Rear Speakers

— for Dolby surround mode

Sound from the front and rear speakers is not output simultaneously. By adjusting the time difference between front and rear speakers (delay time), you can make the surround sound best fit your listening environment. You can make the delay time longer or shorter within the range of 15 ms to 30 ms.



1 **Press SOUND FIELD ON/OFF to ON.**
The indicator of the last selected sound field lights up.

2 **Press SOUND FIELD MODE until the DOLBY SUR indicator lights up.**

3 **Press DPC MODE so that the SUR (surround) indicator lights.**

4 **Press ∧ or ∨ to select the delay time mode.**

5 **Press < or > to adjust the delay time.**

To turn off the surround effect
Press SOUND FIELD ON/OFF to OFF.
The normal sound without surround effect will resume.

The settings of the center and rear level and the delay time remain until you change the settings. They will be recalled whenever you select a sound field program.

Note
The delay time for the rear speakers can be adjusted even in the 3 CH LOGIC mode.

Creating Custom Sound Fields (Continued)

In addition to using the pre-programmed sound fields (page 19), you can create your own customized sound field settings. By changing the pre-programmed sound fields, you can customize the sound field to best fit your listening environment.

Available Parameters

6 recommended sound field programs (combination of the settings of the surround and tone control.) have been preset in the factory. Since these programs are appropriate for the most type of music and listening situations, you can enjoy the sound effect by selecting the desired sound field program according to the program source. And you can also manipulate various parameters to finely tune the factory-preset settings to your room, or create original sound effects as you like.

YES: You can adjust this parameter.
–: You cannot adjust this parameter.

Parameter \ Sound field		DOLBY SUR	THEATER	LIVE	HALL	DANCE	ACOUSTIC
Tone		YES	YES	YES	YES	YES	YES
Surround sound	Delay time	YES	YES	YES	YES	YES	–
	Rear level	YES	YES	YES	YES	YES	–
	Center level	YES	YES	–	–	–	–

DOLBY SUR: Decodes programs processed with the Dolby surround.

THEATER: Adds the reflection of a theater to decoded signals of the Dolby pro logic decoder.

LIVE: Reproduces the acoustics of a large concert hall. It is effective for playing a program source with hard sound.

HALL: Reproduces the acoustics of a rectangular concert hall with soft sound.

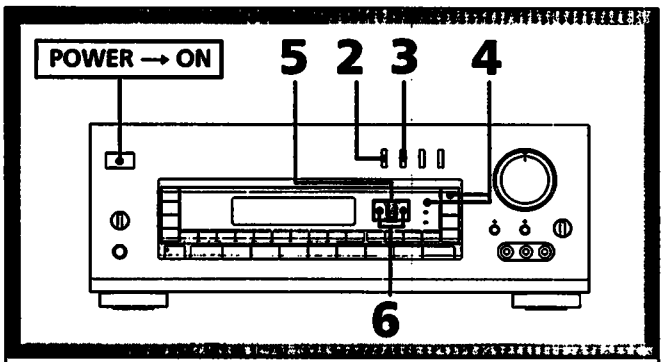
DANCE: Boosts high and low frequencies and the dynamic sounds are reproduced.

ACOUSTIC: The surround effect is defeated and only the tone control is available.

Adjusting Parameters

Once you create your own sound field, it is automatically stored in memory, replacing the pre-programmed sound field. However, you can always reset to the pre-programmed sound fields when you want to (page 32).

Adjusting parameters other than the tone controls
The adjustable parameters are different depending on the sound field you select. Refer to "Available Parameters" on page 30.



1 **Play back the program source, for example, a CD.**

2 **Press SOUND FIELD ON/OFF to ON.**

3 **Press SOUND FIELD MODE to select the sound field you want.**

4 **Press DPC MODE so that the SUR (surround) indicator lights.**

5 **Press ∧ or ∨ to select the parameter you want.**

6 **Adjust the parameter with < or >.**
After adjusting, the settings are stored automatically.

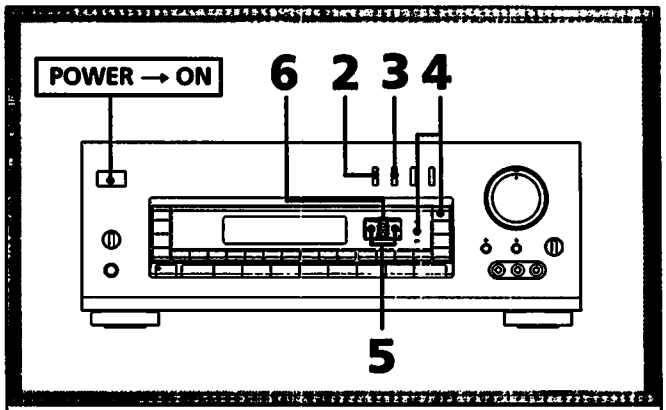
Available delay time of the rear speakers
THEATER, LIVE, HALL, DANCE : 5 - 30 ms at 5 ms step.

If you store a new SOUND FIELD effect
The previous sound field effect is replaced by the new one.

Even if the AC power cord is disconnected
The receiver retains the stored data for approximately 1 month.

If you select ACOUSTIC
ACOUSTIC does not have the surround effect and only the tone effect is available. If you select ACOUSTIC, you can adjust only the tone settings.

Adjusting the tone controls
You can adjust the bass and treble sound. The tone controls work on all the sound fields, including Dolby surround.



1 **Play back the program source, for example, a CD.**

2 **Press SOUND FIELD ON/OFF to ON.**

3 **Press SOUND FIELD MODE to select the sound field you want.**

4 **Press DPC MODE so that the TONE indicator lights.**

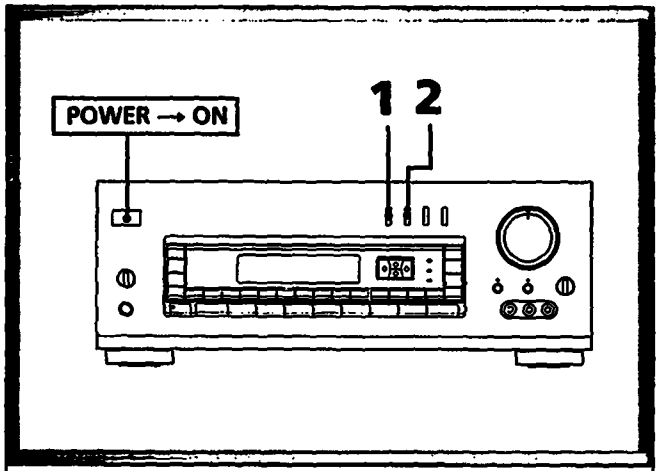
5 **Press < or > so that BASS or TREBLE appears on the display.**

6 **Press ∧ or ∨ to adjust the level.**

To cancel the tone effect
Press TONE ON/DEFEAT on the front panel or EQ/TONE ON/OFF on the remote commander. The sound processed only with the surround settings is heard.

Creating Custom Sound Fields (Continued)

Selecting the Sound Field Setting



1 **Press SOUND FIELD ON/OFF to ON.**

2 **Press SOUND FIELD MODE to select the sound field you want.**

Restoring to the setting stored at the factory
Press POWER while pressing TONE ON/DEFEAT on the front panel. All of the 6 settings are then restored.

Troubleshooting

Before proceeding through the list below, first check the connections and the procedures outlined in the manual.
Should any problem persist after you have checked the following items, consult your nearest Sony dealer.

Problem	Cause	Solution
FM stations cannot be located with Automatic Tuning.	The signal strength of the stations is too weak.	Press LEVEL to set the receiving signal level to low.
		Check the antenna connection.
The STEREO indicator flickers or does not appear when receiving stereo programs.	The FM station is very weak or noisy.	Adjust the antenna or connect an external FM antenna.
		Press FM MODE to set to MONO (monaural) mode.
AM stations cannot be tuned in with Automatic Tuning.	The AM tuning interval is set incorrectly.	Change the tuning interval according to the AM frequency allocation system of your country. (See page 35)
	The signal strength of the station is too weak for Automatic Tuning.	Adjust the antenna.
		Directly tune in the stations. (See page 15)
Stations cannot be tuned in by pressing PRESET TUNING +/–.	No stations have been preset.	Preset the stations. (See page 16)
No sound is heard even if you adjust VOLUME.	The speaker or program source component is not connected correctly.	Connect the component correctly.
	The SPEAKERS selector is not set correctly.	Set the selector correctly. (See page 11)
	TAPE has been pressed for a program source other than tape deck. (The indicator is lit.)	Press the button so that the indicator goes off.
	A wrong function selector has been pressed.	Press the correct FUNCTION button.
	The volume controls on the separate amplifiers are set to a low level when the power swap connections are performed	Set the volume controls on the separate amplifiers to the maximum position and then adjust the volume on the receiver.
	For VCR's: The function switch on the VCR is not set correctly.	Check and set it correctly.
No sound or sound at very low level is heard from rear speakers.	SOUND FIELD function is turned off.	Press SOUND FIELD ON/OFF to turn on the function.
	The CENTER MODE button is set to 3 CH LOGIC.	Set it to WIDE, PHANTOM or NORMAL according to your speaker system.
Sound is heard only at a very low volume.	MUTING has been pressed. (The MUTING indicator is lit.)	Press the button so that the indicator goes off.
One channel does not transmit audio, or the volume from the left and right speakers is unbalanced.	The BALANCE control is not set properly.	Adjust the BALANCE control.
	The speaker or program source is not connected correctly.	Check and properly connect the component.
There is an abrupt loss of sound from one or both of the speakers, and the PROTECTOR indicator flickers in the display window.	A short-circuit problem activates the protective circuit.	Turn off the unit, check the speaker cord connections and turn on the power again. If there is no short-circuit problem, consult your nearest Sony dealer.

Troubleshooting (Continued)

Problem	Cause	Solution
Sound transmitted from the speakers is reversed.	The speakers are not connected correctly.	Connect the right speaker to the R SPEAKER terminals and the left speaker to the L SPEAKER terminals.
There is lack of bass sound or the instrument position is obscure.	The ⊖/⊕ connection of the speaker is reversed.	Connect the speaker with the correct phase.
Severe hum or noise is heard.	The connecting cords are not shielded type.	Use shielded type cords.
	A transformer, motor, TV or fluorescent light affects the connecting cords.	Place the connecting cords in a location away from a transformer or motor, and at least 10 feet (3 meters) from a TV set or a fluorescent light.
	The audio components are too close to a TV set.	If both are used at the same time, separate the TV from the audio components.
	The unit is not grounded.	Connect a ground wire to the antenna ground terminal.
	The connections are loose.	Make secure connections.
	The plugs and jacks are dirty.	Wipe the plugs and jacks with a cloth lightly dampened with alcohol.
Surround settings cannot be adjusted.	The unit is in the wrong mode.	Press DPC MODE so that the SUR indicator lights up.
	Surround circuit is turned off.	Set the SOUND FIELD ON/OFF button to ON and select an appropriate sound field with SOUND FIELD MODE.
Tone adjustment is impossible.	The unit is in the wrong mode.	Press DPC MODE so that the TONE indicator lights up.
	Tone circuit is turned off.	Set the SOUND FIELD ON/OFF button to ON and select an appropriate sound field with SOUND FIELD MODE.
The remote will not operate.	The batteries are low.	Replace the batteries with new ones.
	The remote head is not pointed toward the unit's front.	Point the remote head toward the receiver.
The receiver or components cannot be operated using the remote.	There is an object between the remote and the receiver.	Remove the object.
	The FUNCTION mode of the remote is not same as that of the receiver.	At first, select the same FUNCTION mode with that of the receiver.
The remote signal cannot be programmed.	There is noise interference.	Place both remotes apart from the source of noise.
The LEARN indicator of the remote goes off after flashing.	The batteries are low.	Replace the batteries with new ones.
	The internal memory capacity is full.	Clear all the signals and program again. (See page 26)

Specifications

Audio Power Specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 8-ohm load, both channels driven, from 20 - 20,000 Hz, rated 120 watts per channel minimum RMS power, with no more than 0.15 % total harmonic distortion from 250 milliwatts to rated output.

Other Specifications

Amplifier section

Continuous RMS power output (8 ohms, at 20 Hz - 20 kHz less than 0.15 % total harmonic distortion) (FRONT)

123 W + 123 W

Surround mode

Surround mode (8 ohms at 1 kHz, THD 0.8 %)

FRONT: 100 W/ch
CENTER*: 100 W
REAR: 25 W
* (only in theDOLBY SUR and THEATER modes)

Dynamic power output

165 W + 165 W (8 ohms)
260 W + 260 W (4 ohms)

Harmonic distortion at rated output: Less than 0.15 %

Frequency response: PHONO: RIAA equalization curve ±0.5 dB
CD, DAT/MD, TAPE MONITOR, VIDEO 1 ,2, 3: 10 Hz – 50 kHz $^{+0}_{-1}$ dB

Inputs

	Sensitivity	Impedance	S/N Short A Net/'78 IHF A Net
PHONO (MM)	2.5 mV	50 kilohms	75 dB/75 dB
CD	300 mV	50 kilohms	82 dB/82 dB
DAT/MD, TV, LD, VIDEO 1, 2, 3, TAPE MONITOR	250 mV	50 kilohms	82 dB/82 dB

Outputs

REC OUT VIDEO 1, 2 (AUDIO) OUT	Voltage 250 mV Impedance 10 kilohms
HEADPHONES	Accepts low and high impedance headphones

MUTING –20 dB
LOW BOOST +10 dB at 70 Hz
TONE ±8 dB at 100 Hz and 10 kHz

FM tuner section

Tuning range 87.5 – 108.0 MHz
Antenna terminals 75 ohms, unbalanced
Sensitivity (at 50 dB): 18.3 dBf, 4.5 µV (mono)
38.3 dBf, 45 µV (stereo)
Usable sensitivity 11.2 dBf, 2 µV (IHF)
S/N Mono: 76 dB
Stereo: 70 dB
Harmonic distortion at 1 kHz
Mono: 0.3 %
Stereo: 0.5 %
Separation 45 dB at 1 kHz
Frequency response 30 Hz – 15 kHz $^{+0.5}_{-2}$ dB
Selectivity 60 dB at 400 kHz

AM tuner section

Tuning range 530 – 1710 kHz (with 10 kHz interval*)
531 – 1710 kHz (with 9 kHz interval)
Antenna Loop antenna
Usable sensitivity 50 dB/m (at 1,000 kHz or 999 kHz)
S/N 54 dB (at 50 mV/m)
Harmonic distortion 0.5% (50 mV/m, 400 Hz)
Selectivity 35 dB (9 kHz), 40 dB (10 kHz)

* You can change the AM tuning interval to 9 kHz. After tuning in any AM tuning in any AM station, turn off the power of receiver once. While holding down the TUNING + button, press the POWER switch. When you change the interval, all the preset stations will be erased. To reset the interval, repeat the same procedure.

Video section

Inputs VIDEO 1,2,3:
1 Vp-p 75 ohms
Outputs VIDEO 1, 2, MONITOR:
1 Vp-p 75 ohms

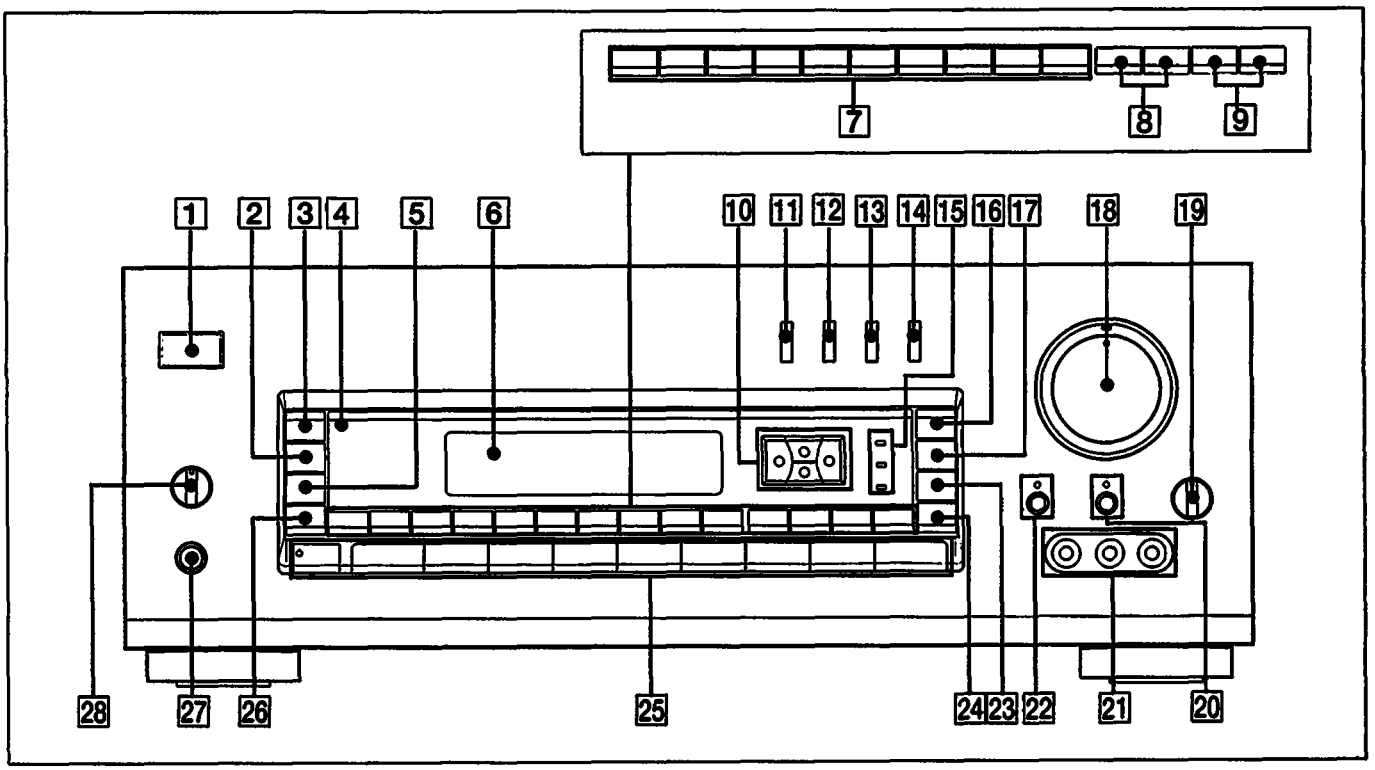
General

System Tuner section: PLL quartz-locked digital synthesizer system
Preamplifier section Low-noise NF type equalizer
Power amplifier section: Pure-complimentary SEPP
Power requirements 120 V AC, 60 Hz
Power consumption (in standby condition: 5W)
USA model: 220 W
Canada model: 310 VA
AC outlets Two switched, total 120 W
Dimensions 430 x 160 x 425 mm (17 x 6 $^{2}/_{7}$ x 16 $^{5}/_{7}$ inches)
Mass 13.1 kg (28 lb 14 oz)
Supplied accessories FM wire antenna (1)
AM loop antenna (1)
Remote commander (1)
Sony Batteries SUM-3(NS) (2)

Design and specifications are subject to change without notice.

Identifying the Parts and Controls

Front Panel



1 **POWER switch**

2 **FM MODE button** (See page 15.)

3 **FM/AM button** (See pages 15, 16.)

4 **Remote sensor**

5 **LEVEL button** (See page 16.)

6 **Display window**

7 **Numeric buttons** (See pages 15, 16, 17.)

8 **INDEX SELECT/TUNING +/– buttons** (See pages 16, 22.)

9 **PRESET TUNING +/– buttons** (See pages 17, 23.)

9 **DIGITAL PROCESSING CONTROL buttons** (See pages 22, 23, 28, 29, 31.)

11 **SOUND FIELD ON/OFF button** (See pages 19, 28, 29, 31, 32.)

12 **SOUND FIELD MODE button** (See pages 19, 28, 29, 31, 32.)

13 **CENTER MODE button** (See pages 27, 28.)

14 **TONE ON/DEFEAT button** (See pages 31, 32.)

15 **DPC MODE indicators** (See pages 22, 23, 29, 31.)

16 **DPC MODE button** (See pages 22, 23, 28, 29, 31.)

17 **DISPLAY button** (See pages 16, 23.)

18 **MASTER VOLUME control** (See page 11.)

19 **BALANCE control** (See page 11.)

20 **LOW BOOST button and indicator** (See page 11.)

21 **VIDEO 3 INPUT jacks**

22 **MUTING –20 dB button and indicator** (See page 11.)

23 **SHIFT button** (See pages 16, 17.)

24 **DIRECT button** (See page 15.)

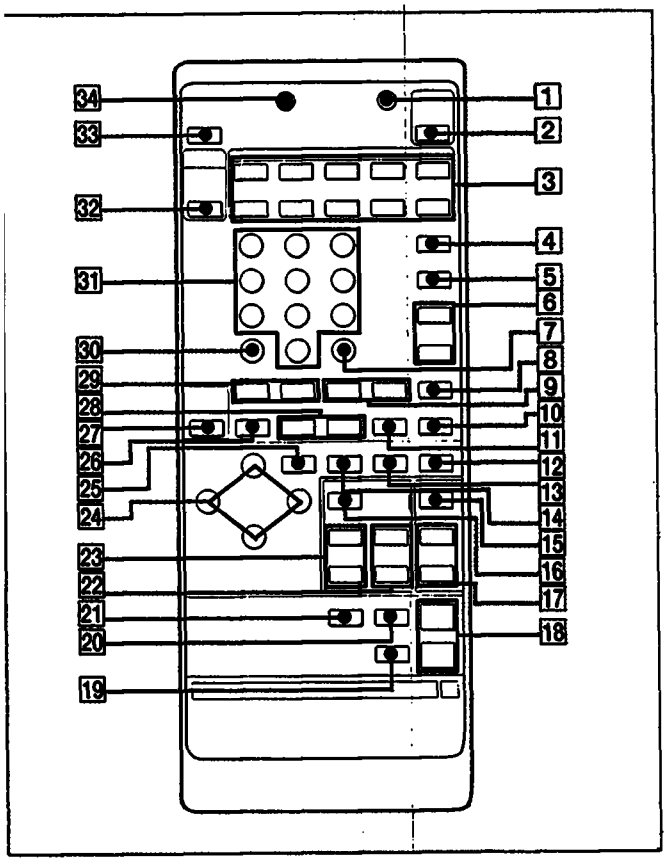
25 **Function selectors and TAPE MONITOR button and indicator** (See pages 10, 11, 20, 21, 23.)

26 **MEMORY button** (See page 16.)

27 **HEADPHONES jack**

28 **SPEAKERS selector** (See page 11.)

Remote Control



1 **LEARN button** (See pages 25, 26)

2 **SYSTEM OFF button** (See page 12)

3 **SYSTEM CONTROL/FUNCTION TAPE, DAT/MD, CD, TUNER, PHONO, VIDEO 1, VIDEO 2, VIDEO 3, LD, TV buttons** (See pages 10, 11, 12, 13, 26)

4 **VISUAL POWER button** (See pages 12, 13)

5 **TV/VIDEO, INDEX button** (See pages 12, 13)

6 **CH (channel)/PRESET +/– buttons** (See pages 12, 13)

7 **RMS (random music sensor)/START, ENTER button** (See pages 12, 13)

8 **ANT (antenna) TV/VTR, D (disc) SKIP button** (See pages 12, 13)

9 **I◄◄, ►►I (AMS: Automatic Music Sensor) buttons** (See pages 12, 13)

10 **● (recording) button** (See pages 12, 13, 26)

11 **II (pause) button** (See pages 12, 13)

12 **EQ (equalizer) /TONE ON/OFF button** (See pages 31)

13 **EQ (equalizer) SLOPE button***

14 **EQ (equalizer) BAND button***

15 **SOUND FIELD ON/OFF button** (See pages 19, 28, 29, 31, 32)

16 **T. TONE button** (See page 28)

17 **SOUND FIELD MODE +/– buttons** (See pages 19, 28, 29, 31, 32)

18 **MASTER VOL +/– buttons** (See pages 11, 28)

19 **MUTING button** (See page 11)

20 **LOW BOOST button** (See page 11)

21 **DIRECT (PASS) button***

22 **CENTER LEVEL +/– buttons** (See page 28)

23 **REAR LEVEL +/– buttons** (See page 28)

24 **DIGITAL PROCESSING CONTROL buttons** (See pages 22, 23, 24, 28, 29, 31)

25 **DPC (Digital Processing Control) MODE button** (See pages 22, 23, 29, 31)

26 **RMS (Random Music Sensor) CLEAR, ■ button** (See pages 12, 13)

27 **BACK GROUND button** (See pages 13, 26)

28 **◄ (forward play), ► (play), RMS (Random Music Sensor) DIRECTION buttons** (See pages 12, 13, 26)

29 **◄◄, ►► (seach)button** (See pages 12, 13)

30 **> 10 (over 10), SHIFT button** (See pages 12, 16, 17)

31 **Numeric buttons (1 to 0)** (See pages 12, 14, 15, 17)

32 **TV CONTROL ON button**(See pages 12, 13)

33 **SLEEP button**(See page 24)

34 **LEARN indicator** (See pages 25, 26)

* Can not be used with this unit.

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  Direct (15)
  Presetting (17)

U, V, W, X, Y, Z

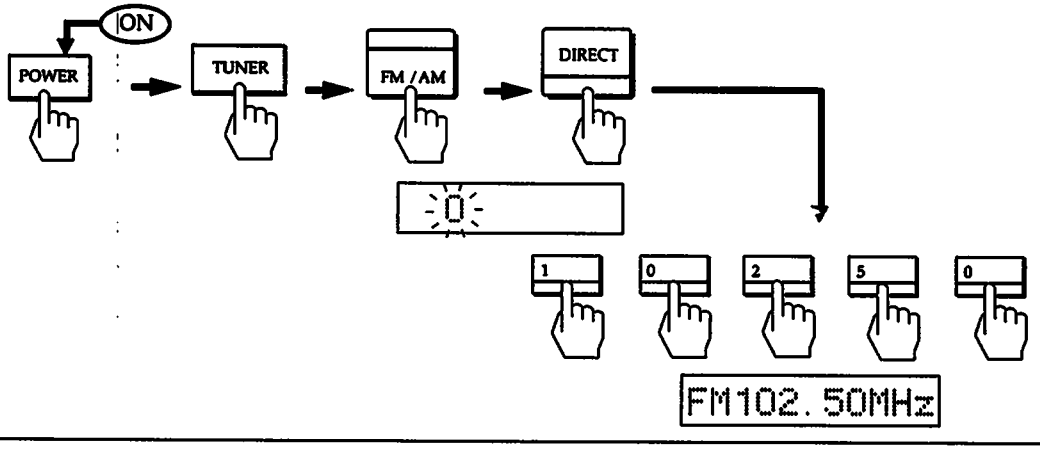
Using the remote control (12)
Unpacking (5)
Wide mode (27)

Quick Reference

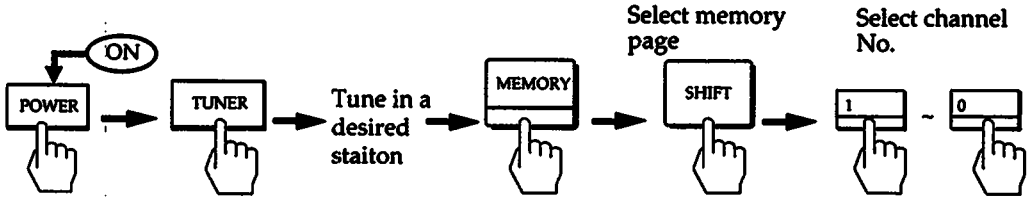
When operate the unit consulting this Quick Reference, make sure that the unit and the various audio/video equipment are properly connected.

Directly tuning in an FM or AM station

Ex. Tuning in the FM station of 102.50 MHz

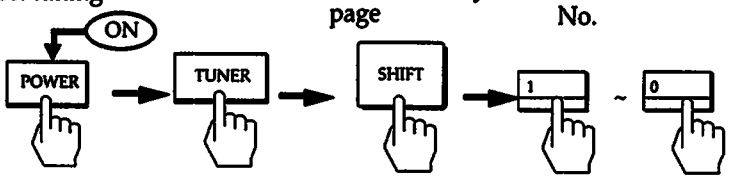


Presetting stations

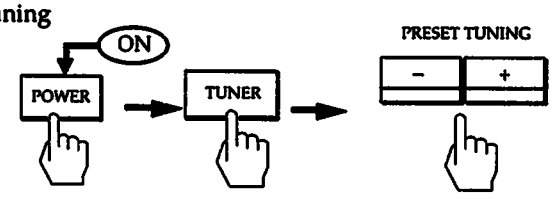


Tuning in a preset station

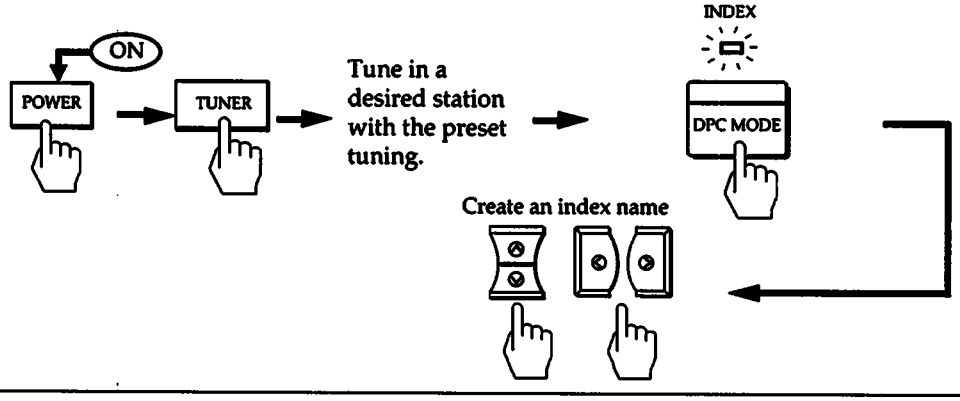
Method A: Direct tuning



Method B: Scan tuning

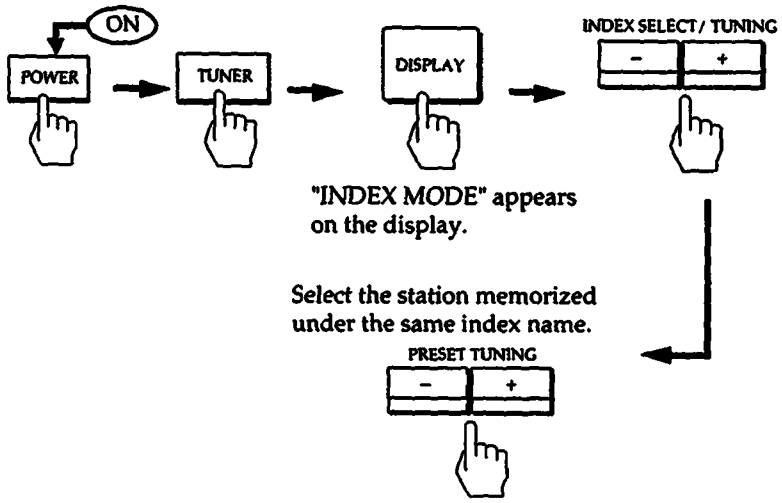


Labeling the preset stations

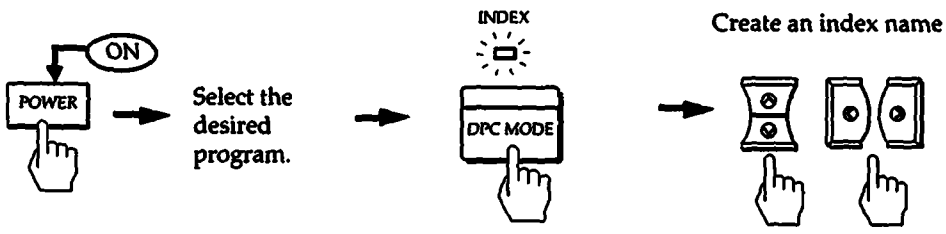


Quick Reference (Continued)

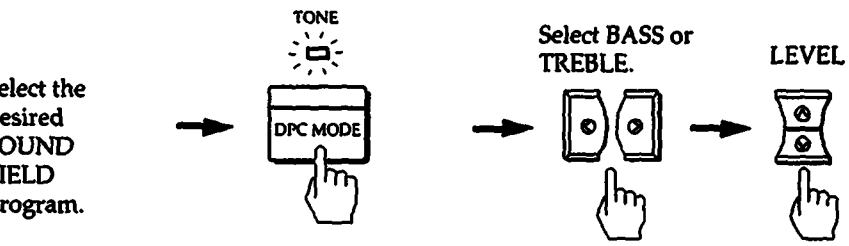
Selecting a station among the preset stations in the index



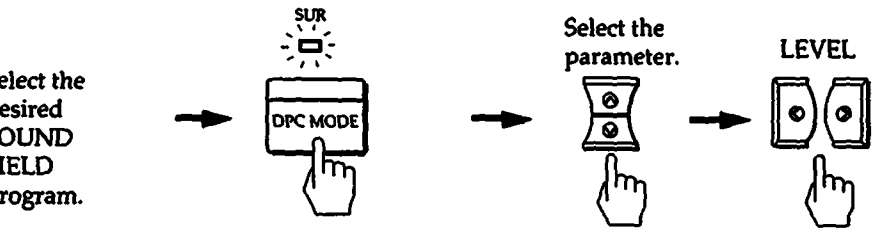
Labeling the program sources



Adjusting the TONE controls



Adjusting the surround setting



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